SANYO

FILE NO.

SERVICE MANUAL

PDP-42XS1

PDP TV

SPECIFICATIONS

Power source: 100-240V, 60/50Hz
Power consumption: 400W
Dimension: 1,246(W) x 731(H) x 305(D)mm
Net Weight: Approx. 41.0kg

Specifications subject to change without notice

REFERENCE No. SM0915001

CONTENTS

Safety Precautions…….... 1
Alignment instructions. ……. 3
Method of software upgrading …… 9
Working principle analysis of the unit…… 12
Diagnose and service of panel…… 16
Wiring diagram…….. 19
Assembly list…….. 20
Trouble shooting guide …… 21
Schematic diagram …… 30

Note: This maintenance manual is intended only for the reference of the maintenance people. Please pay attention to the following points before carrying out the maintenance work.

Safety Precautions

Please read the “Points for attention for the Maintenance & Repair of PDP” and “Criterion for Identifying the Defects on Screen” as below, before inspecting and adjusting the TV set.

1. “Points for attention for the Maintenance & Repair of PDP”

To avoid possible danger, damage or jeopardy to health and to prevent PDP screen from new damage, the maintenance people must read the following carefully. If they ignore the following warnings, there will be deathful risks:

1.1 Screens vary from one model to another and therefore not interchangeable. Be sure to use the same type of screen in the replacement.

1.2 The operation voltage is approximately 350V for PDP module (including screen, driving circuit, logic circuit and power module). If you want to conduct maintenance work on PDP module when the set is in normal operation or just after the power is off, you must take proper measures to avoid electric shock and never have direct contact or touch with the circuitry of the working module or metal parts. That’s because within a short time relatively high voltage still remains on the capacitor of the driving part even after the power is off. Make sure to begin relevant maintenance operation at least one minute after the power is off.

1.3 Don’t apply on the module any power supply that is higher than the specification. If the power supply used deviates from the value given in the specification, there might be a possibility of leading to fire or damage to the module.

1.4 Never have operation or mounting work under unsuitable environment such as areas in the vicinity of water – bathroom, laundry, water chute of kitchen – sources of fire, heat-radiation parts or direct exposure to sunlight. Otherwise there will be kickbacks.

1.5 In case foreign substances such as water, liquid, metal slices or others fall into the module carelessly power must be cut off immediately. Keep the module as it is and do not move anything on the module. Otherwise it might be possible to contact the high voltage or cause shock short circuit so that it may lead to fire or electric shock.

1.6 If there is smoke, abnormal smell or sound from the module, please cut the power off immediately. Likewise in case the screen doesn’t work when the power is on or during the operation, please also cut off the power at once. No more operation in this case.

1.7 Do not remove or plug its connection wire when the module is in operation or right after the power is off. That’s because there remains a relatively high voltage on the capacitor of the driving circuit. If there is a need to remove or plug in the connection wire, please wait at least one minute after the power is off.

1.8 Considering the module has a glass faceplate, please avoid extrusion by external force lest it should cause glass breakage that may get people injured. Two people are needed in cooperation to move this module lest contingency takes place.

1.9 The complete TV set is designed on the basis of full consideration of thermal dissipation by convection, with the round hole on the top for heat emission. To avoid overheat, please do not have any covering on the hole during normal operation and never put it in the place where the space is narrow and in bad ventilation.

1.10 There is quite a number of circuits in PDP that are integrated ones. Please be on guard against static electricity. During maintenance operation be sure to cover yourself with anti-static bag and before

operation make sure to have it sufficiently grounded.

1.11 There are a big number of connection wires distributed around the screen. Please take care not to touch or scuff them during maintenance or removing the screen, because once they are damaged the screen will fail to work and it's not possible to repair it.

1.12 Connector for the circuit board of the screen part is relatively fine and delicate. Please take care in the replacement operation lest it should get damaged.

1.13 Special care must be taken during transportation and handling because strenuous vibration could lead to screen glass breakage or damage on the driving circuitry. Be sure to use a strong outer case to pack it up before transportation or handling.

1.14 Please put it for storage in an environment in which the conditions are under control so as to prevent the temperature and humidity from exceeding the scope stipulated in the specification. For prolonged storage please cover it with anti-moisture bag and have them piled and stored in one place. The environmental conditions are tabulated as below:

Temperature	Scope for operation	0~50centigrade
	Scope for storage	-15~60centigrade
Humidity	Scope for operation	20%~80%
	Scope for storage	20%~80%

1.15 If a fixed picture is displayed for a long time, difference in its brightness and color may occur compared with movable pictures. But it doesn't show any problem and the reason is that there is reduced density of fluorescent powder in the former. On the other hand, even if changes take place in the picture, it can keep its brightness for a period of time (several minutes). It's a feature inherent with plasma and it's not abnormal. However please try as much as possible to avoid showing a still picture of high brightness for a long time during operation.

1.16 As a digitalized display devise, this module is provided with error diffusion technology and the gray scale and false enhancement of contour can be displayed by reusing of sub-field. As compared with cathode ray tube, it can be found in the moving picture that at the brim of the face of a person there are some wrong colors.

1.17 During the display of graph (indicating the gradual change in brightness horizontally or vertically) resulting from gray scale test it can be found that the brightness for the two adjacent levels is uneven. This is caused by the reuse of sub-field, the display of load rectification and the electrolysis.

1.18 The screen front plate is of glass. Please make sure that the screen has been put in place during erection. If it is not in place before the erection begins it may lead to screen crack or breakage.

1.19 Make sure the screw used in the mounting of the screen is of the original specs lest it should cause damage to the screen due to mismatch. Special care should be taken not to use too long or too big screw.

1.20 Care must be taken to guard against dust during assembling or dismantling, especially to avoid dirt from falling in between the screen and the glass lest it should harm the receiving and viewing effect.

1.21 There is piece of insulator stuck on the rear chassis corresponding to the power supply board. It is used to isolate the cool part from the hot part. Please take care to keep it intact lest it should become a potential safety trouble.

1.22 In addition to plasma screen, the glass is a part of high value. It has such functions as anti-radiation, adjustment of color temperature etc. Please handle it carefully.

Alignment instructions

1 Alignment equipment

PM5518 (video signal generator)
54200 (SCART video signal generator)
VG-849 (VGA signal generator)
CA100 (white balancer)
VG-849 (HDMI signal generator)

2 Alignment flow-chart

The alignment flow-chart is shown as fig-1

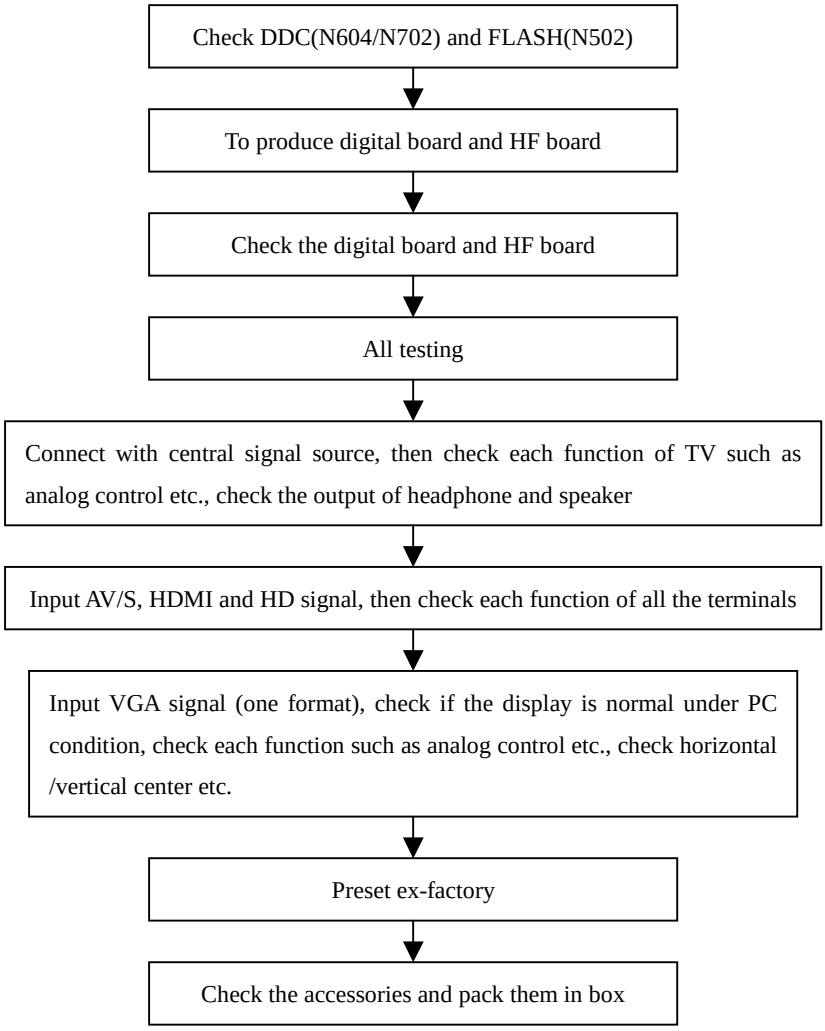

Check DDC(N604/N702) and FLASH(N502)
To produce digital board and HF board
Check the digital board and HF board
All testing
Connect with central signal source, then check each function of TV such as analog control etc., check the output of headphone and speaker
Input AV/S, HDMI and HD signal, then check each function of all the terminals
Input VGA signal (one format), check if the display is normal under PC condition, check each function such as analog control etc., check horizontal /vertical center etc.
Preset ex-factory
Check the accessories and pack them in box

Fig-1 adjustment flow-chart

3 Unit adjustments

3.1 Connect jump wire (SW501) to the power +24V for the unit panel.

3.2 After connect the digital board, button board and HF board, check if the display is normal.

3.3 Enter factory menu

The first press the MENU button, then press the "-/--"→ "9" → "1"→ "8" buttons enter factory menu. Press the SLEEP button to selection the adjustment page menu, press CH+ and CH- buttons to selection item, press VOL+ and VOL- buttons to set item, press the MENU button exit the factory menu again. If the unit does not turn off, you press the SLEEP can enter factory menu.

3.4 EEPROM initialization

Enter page one of the factory menu, select the EEPROM INITIALIZE to ON.

3.5 White balance adjustment

The eight level gray-scale signal of FLUKE PW5148 video generator sends to AV channel, enter the factory menu white balance adjustment page. Select the standard color temperature item, fixed the R GAIN to be 32H, adjust the seventh color coordinate (284, 299) of B, G GIAN; fixed the R OFFSET to be 32H, adjust the second color coordinate (284,299) of B, G OFFSET.

Note: adjust white balance of standard color temperature of the AV channel, other four channel due to the software auto adjustment, under the 1200k(270,283), 6500K(313,329) due to the software pre-set.

Cool and warm color temperature pre-set of the AV channel as follows table:

AV channel	Cool (1200K)	Warm (6500K)
R Offset	32H	32H
G Offset	2BH	2BH
B Offset	35H	32H
R Gain	32H	32H
G Gain	4AH	39H
B Gain	3FH	22H

4 Performance check

4.1 TV function

Enter the search menu → auto search, connect RF-TV terminal to the central signal source, check if there is station skipping.

4.2 AV/S input terminal

Input AV/S signal, check the picture and sound is normal

4.3 SCART terminal (note: check the SCART terminal, set display mode to AUTO)

4.3.1 Check SCART INPUT special function

4.3.1.1 SCART1 terminal function

a. After turn on the unit, connect the SCART1 to PM54200 signal generator, then the unit auto select to SCART1 mode.

b. SCART signal generator sends CVBS signal to the unit; check if the image and sound is normal. It sends image format (16:9 and 4:3) to the unit, check if the unit auto identify is normal. Change SCART signal to RGB signal; check if the image and sound is normal, It sends image format (16:9 and 4:3) to the unit, check the unit auto identify is normal. Select the PIP mode, connect earphone cable, and check if the sound is normal.

4.3.1.2 SCART2 terminal function

a. After turn on the unit, connect the SCART2 to PM54200 signal generator, then the unit auto select to SCART2 AV mode.

b. SCART signal generator sends CVBS signal to the unit, check if the image and sound is normal. It sends image format (16:9 and 4:3) to the unit, check if the unit auto identify is normal, and display the SCART2 AV. Change SCART signal to Y/C signal, select the SCART2 Y/C channel mode, check if the image and sound is normal, It sends image format (16:9 and 4:3) to the unit, check if the unit auto identify is normal. Select the PIP mode, connect earphone cable, and check if the sound is

normal.

4.3.2 Check SCART OUTPUT special function

4.3.2.1 SCART1 terminal function

Input signal in the TV states, connect the SCART1 terminal to the TV. Change the TV program, check if output signal of SCART1 is TV signal, and the image and sound is normal, change the unit channel, the CART1 output TV signal, it can not other signal.

4.3.2.2 SCART2 terminal function

Input signal in the TV/AV/S states, connect the SCART2 terminal to the TV. Change the unit channel, check if output signal of SCART2 is current signal, and the image and sound is normal.

4.4 YPbPr terminal

Input the YUV signal (VG-848 signal generator), separate input YUV format signal of table 1, check if the image and sound is normal. If the image is deflection of the H-field, select auto sync correction of the SCREEN menu. If the image is slight disturb, adjust the FINE TUNE correction of the SCREEN menu. Open the PIP mode, connect the earphone, and check if the image and sound is normal.

Table 1 YUV format signal

Mode	TIMING parameter	VG848 NO.
480I	712X484@ 60HZ	968
480P	720X484@60HZ	978
576I	702X574@50HZ	969
576P	756X557@50HZ	979
720P @50HZ	1280X720@50HZ	5SET
720P @60HZ	1280X720@60HZ	976
1080I@50HZ	1920X1280@50HZ	1SET
1080I@60HZ	1920X1280@60HZ	972

4.5 VGA terminal

Input the VGA signal (VG-848 signal generator), separate input VGA format signal of table 1, check if the image and sound is normal. If the image is deflection of the H-field, select auto sync correction of the SCREEN menu. If the image is slight disturb, adjust the FINE TUNE correction of the SCREEN menu. Open the PIP mode, connect the earphone, and check if the image and sound is normal.

4.6 HDMI terminal

HDMI signal format receive the three high definition signal: 480P, 576P, 720P/50/60 Hz, 1080I/50/60 Hz, except for the table 2 signal. Check if the image (contain HDCP ON and OFF) and sound is normal. If the image is deflection of the H-field, select auto sync correction of the SCREEN menu. Open the PIP mode, connect the earphone, and check if the image and sound is normal.

TABLE2 VGA signal format

TIMING parameter	VG848 NO.
640X480@60HZ	885
640X480@72HZ	851
640X480@75HZ	852
640X480@85HZ	334(K7253)
720X400@70HZ	855

720X400@85HZ	960
800X600@56HZ	853
800X600@60HZ	854
800X600@72HZ	887
800X600@75HZ	945
1024X768@60HZ	856
1024X768@70HZ	857
1024X768@75HZ	858
1280X1024@60HZ	963

4.7 Ex-factory setting see to TABLE 3 - TABLE 7

TABLE 3 Factory Option Menu

ITEMS	EX-FACTORY SETTING
IIC Bus-off	Off
EEPROM Erase	Off
Backlight Adjustable	Off
Back Light	100
Menu Timeout	10
Blank switch enable	Off
ShowLogo	On
Auto Channel Lable	On
TT Char Group	West Europe / East Europe / Cyrillic / Turkish /Greek/Arabic/Hebrew
Dynamic Scart	Off
Note: the latter 6 items should set according to clients' require.	

TABLE 4 Factory Audio Setting

ITEMS	EX-FACTORY SETTING
Volume 1	45H
Volume 25	62H
Volume 50	67H
Volume 75	6EH
Volume 100	76H
HP VOLUMESETTING	
ITEMS	EX-FACTORY SETTING
Volume 1	64H
Volume 25	96H
Volume 50	A1H
Volume 75	AEH
Volume 100	BEH
MSP Scart1 Volume	72H
ITEMS	EX-FACTORY SETTING
Prescale Scart	4CH

Prescale FM/AM	30H
Prescale Nicam	64H
Scart TV Volume	20H
Scart AV Volume	72H
D/K select HDEV3	Off
AVC	Off
Equalizer Bands Max	60H
Spatial Mode	0
Spatial Strength	00H

TABLE 5 Factory Video limit Setting

ITEMS	CVBS	SC-RGB	YPBPR	D-SUB	HDMI
Bright Min	D5H	DFH	C6H	D5H	D8H
Bright Middle	00H	02H	01H	07H	09H
Bright Max	15H	20H	18H	2BH	18H
Contrast Min	09H	0CH	16H	10H	0CH
Contrast Middle	20H	20H	26H	32H	1FH
Contrast Max	2AH	2DH	3EH	3FH	29H
Sharpness Min	00H	00H	00H	00H	00H
Sharpness Middle	10H	10H	10H	10H	10H
Sharpness Max	1FH	1FH	1FH	1FH	1FH
Color Min	00H	00H	00H	00H	00H
Color Middle	3FH	3FH	3FH	3FH	32H
Color Max	50H	7FH	7FH	7FH	63H
Hue Min	CEH	CEH	CEH	CEH	CEH
Hue Middle	00H	00H	00H	00H	00H
Hue Max	32H	32H	32H	32H	32H

TABLE 6 THE IMAGE ANALOG SETTING

	Vivid	Standard	Mild	Custom
Contrast	80	75	50	75
Brightness	60	50	50	50
Color	60	50	40	50
Hue	00	00	00	00

Sharpness	50	50	50	50
Note: in factory menu states, it can change the factory mode to value of the image and sound, else select the image and sound balanced value in the other states.				

TABLE 7 SOUND equilibrium value setting

	Live	Pop	Rock	Custom
120Hz	50	50	65	50
500Hz	50	50	55	50
1.5KHz	50	60	55	50
5KHz	80	70	55	50
10KHz	85	70	55	50

4.8 Ex-factory setting of user menu

4.8.1 select TV channel

4.8.2 video menu, Mode: Standard, NR: Medium, APL:ON

4.8.3 sound menu, Volume: 20, Balance: 00, Equalizer: Custom, HP Volume: 20;

4.8.4 edit menu, Color System: Auto, Sound System: DK;

4.8.5 option menu, Default Zoom: Auto, Child Lock: Off, Menu Language: English, Country: UK, WSS: OFF, Blue Screen: On.

Note: the 4.8.4 and 4.8.5 items should set according to clients require.

Method of software upgrading

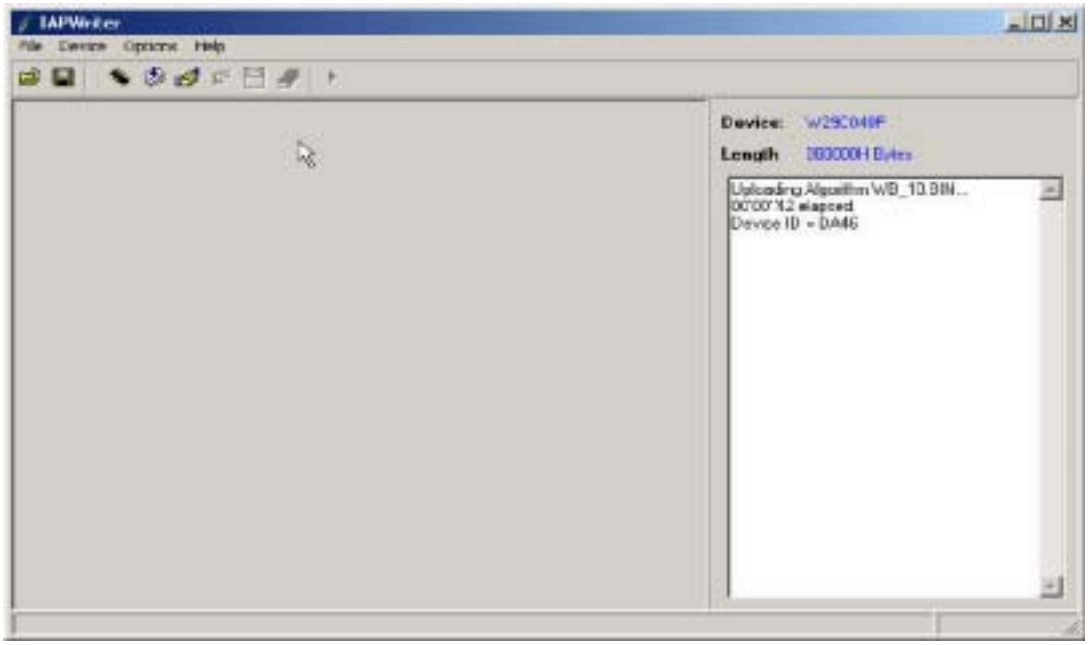
1. Enter the software upgrading state of the TV

Method 1: press the VOL- button in the unit, turn on the main power switch, then the screen display black screen, but the indicator to blue.

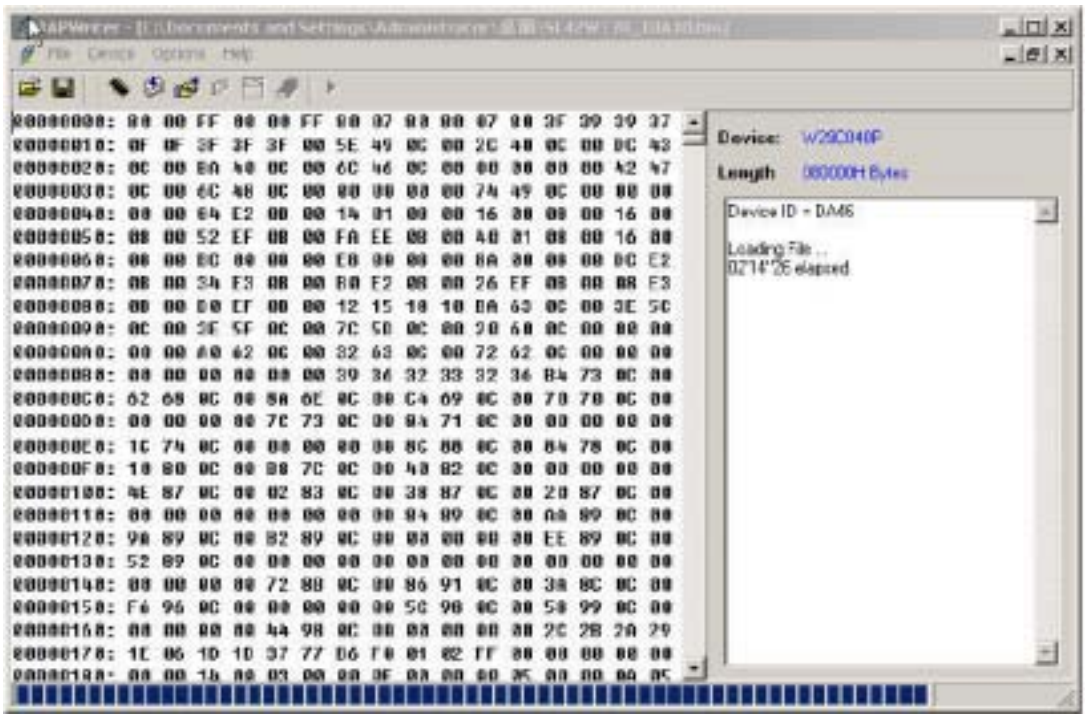
Method 2: Enter factory menu, select the IIC-BUS OFF item.

2. Connection upgrading tools with upgrading port.

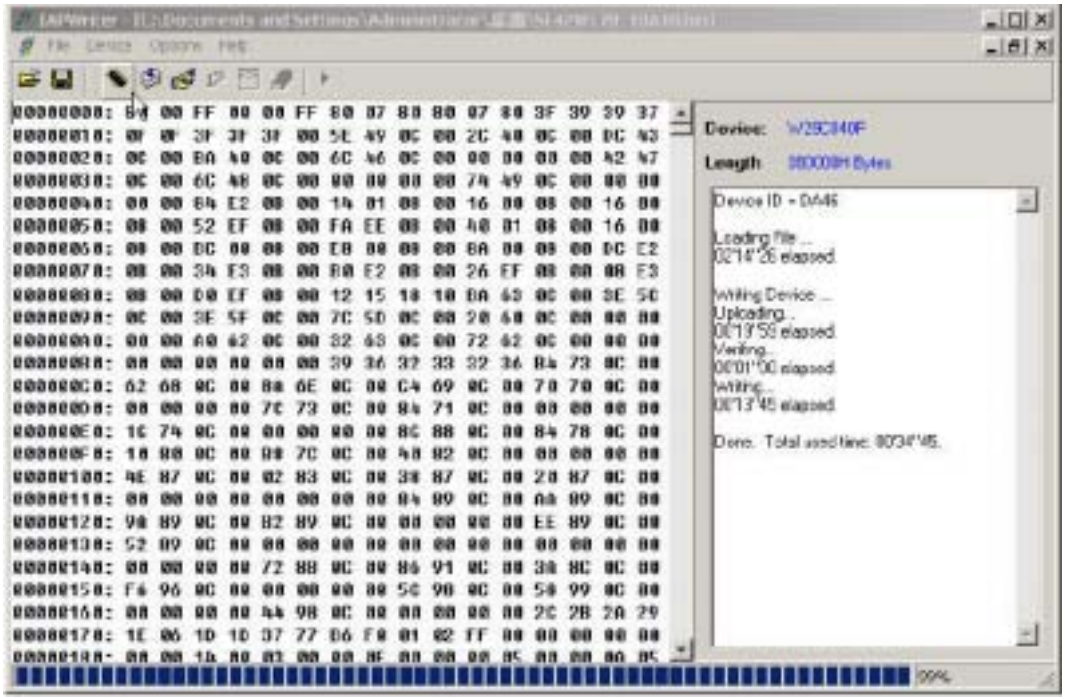
3. Dual- click IAPWriter logo, enter the upgrading states (if the PC and the IIC communication trouble, it can prompt.



4. Select the file menu load the software follow as:

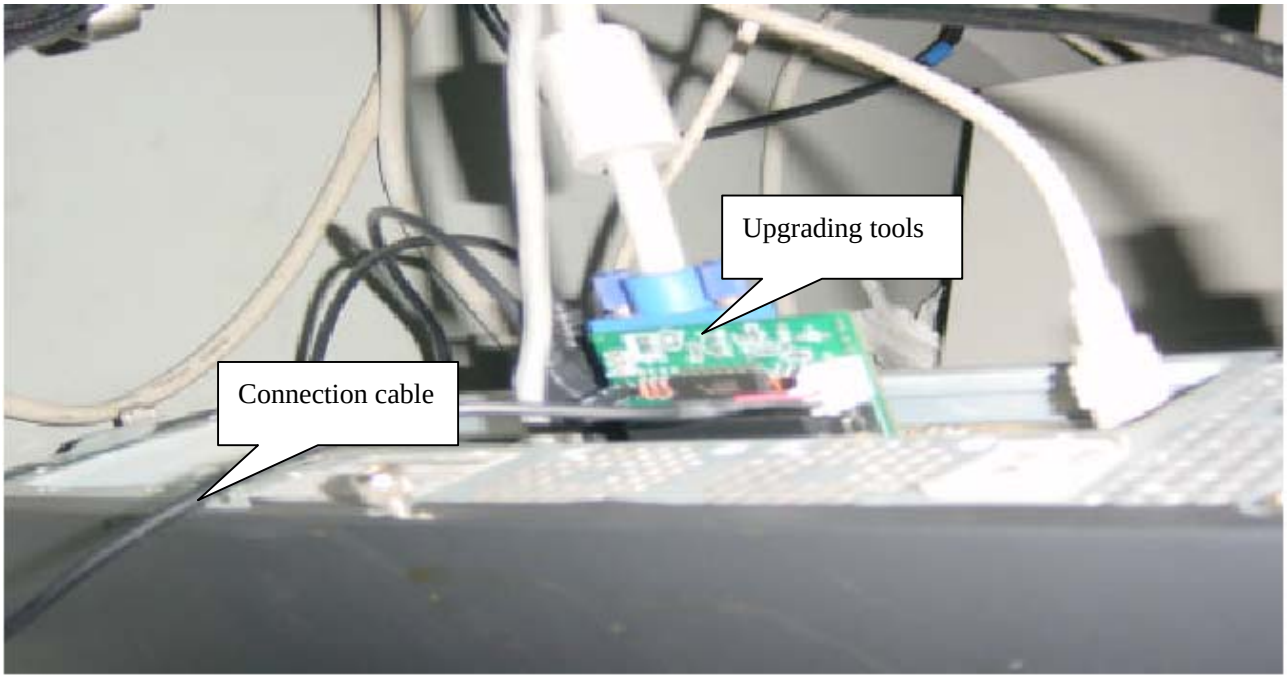


5. Select WRITE DEVICE item of the device menu, till the right screen display “DONE”.



6. turn off the power , restart the unit.

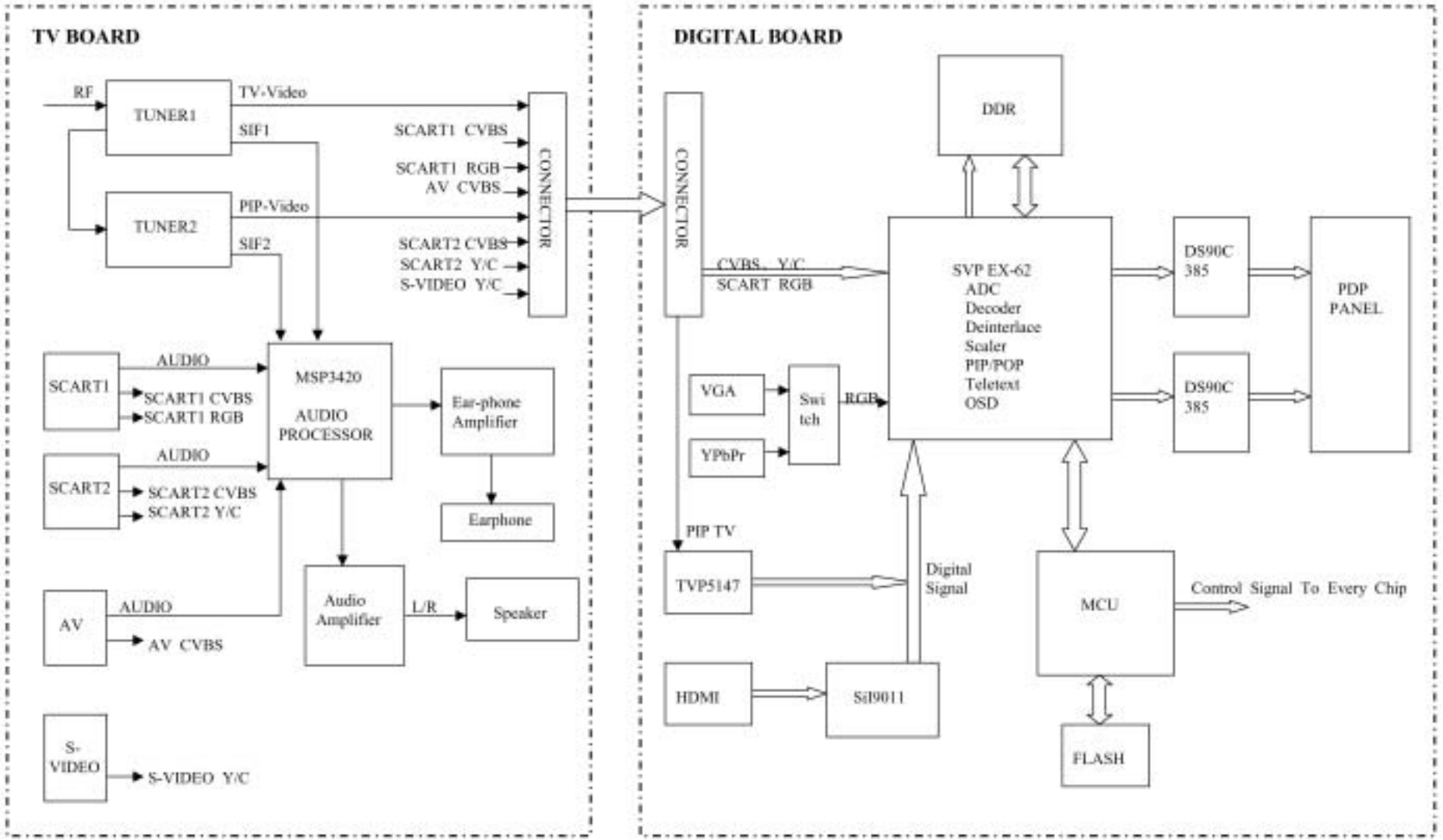
Note: because of the software, it may be no-stabilization, the software can auto download and write.



NOTE: Do not shut the power off or turn the TV set on during the FLASH write. Otherwise it may lead to no way for flash to rewrite.

Working principle analysis of the unit

1. Block diagram



Including:
CPU: RENESAS M16C (M30620SPGP)
Video decoder: SVP-EX62 / sub-screen TVP5147
AD conversion/line by line conversion /Teletext decodes: SVP-EX62
HDMI: SILICON IMAGE the second generation processing CMOS chip SiI9011
Audio processing: MSP3410
Sound power amplifier: D class audio MP7720 (single channel)

The CPU of the unit is M16C (N501) which mainly control the working of all CMOS chips, including (receiving infrared telecontrol / keystoke, standby control, I/O control); the main CMOS chips is SVP-EX62 (N201) which mainly in charge of function of the picture dispose, passage conversion, picture display, menu display, picture effect adjust, accompany sound dispose (including volume adjust, the control of high and low volume, stereo decode), the control of channel search, TELETEXT decode.

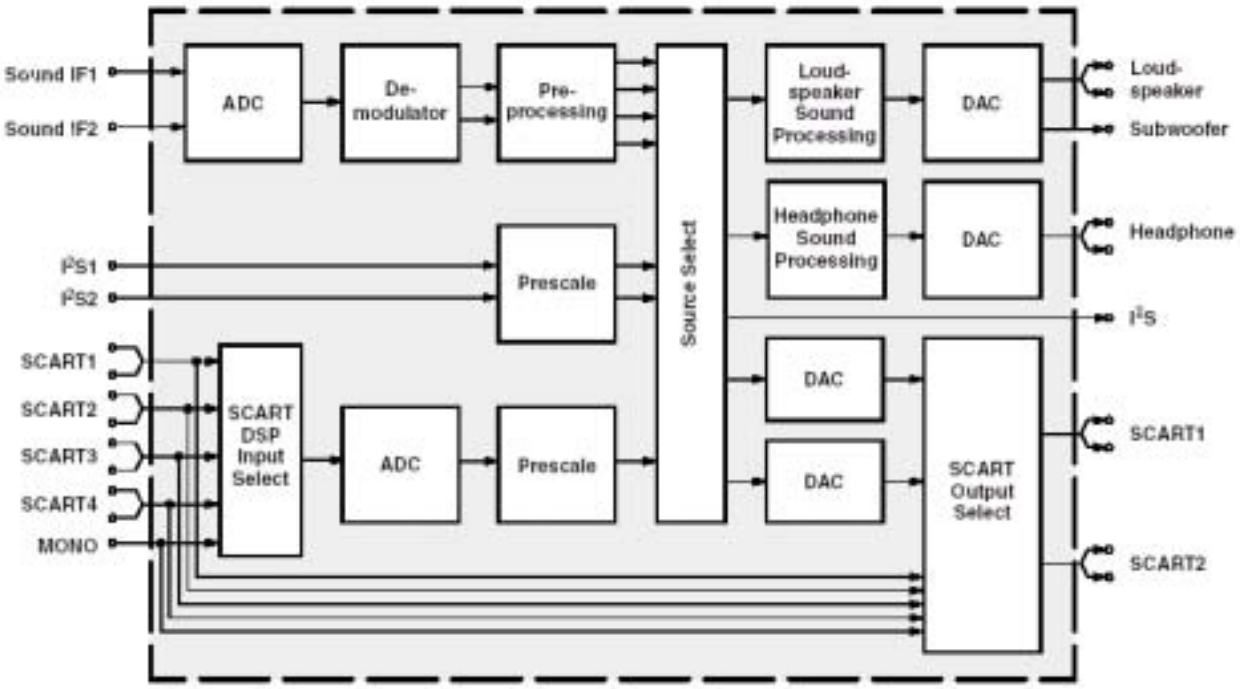
2.sound parts:

The unit adopt double tuner (including tuner and IF amplifier circuit), antenna receives signals sends the signals to the TUNER1, TUNER1 contains high frequency distributor, the RF signals distribute one way to the TUNER2, thereinto the fourteen foot of TUNER1 supply the power (+5V) for the high frequency distribution part. Tuner under the control of assistant CPU (N502) (SDA, SCL) to choose the appropriate channel and then switch to the right TV system, output video signals and audio signals after HF amplifier and IF amplifier decoding. The output signals of TUNER1 sent to decoder SVP-EX62 as the main screen display, while TUNER2 sent to decoder TVP5147 (N801) as the display of sub-screen.

Audio signals sent to audio processing MSP3410 (N101) directly, meanwhile double tuners will send the SIF to N101 dispose (use to stereo decode and automatic volume control). N101 is provided with audio channel switch, the audio input of mainboard (VGA/HDMI/YprPb signal) is sent to N101 with TV and AV after via N707 chip switching. The audio signal: one-way via volume and high-low sound control after, them left and right sound sent to sound power amplifier MP7720 and then send to speaker. Other way left and right sound sent to earphone power amplifier JRC1109 (N104) after, them sent to earphone. The volume is controlled the controller signal (SDA and SCL), other way sound of AV out the output SCART terminal of video board.

Audio processing IC

The diagram of MSP3410 shown as follows:



Descriptions of the pins:

2, 3: SCL, SDA, control the IC working

27, 28: Output to the right and left sound channel of sound power amplifier

33, 34: the right and left sound channel of earphone

36, 37: the right and left sound channel of AV OUT sound

47, 48: the left and right sound channel from main board

50, 51: the left and right sound channel of AV IN sound channel

53, 54: the left and right tracks of the TV sub- channel

56, 57: the left and right tracks of the TV main- channel

67, 69: the SIF input of the TV main- channel and sub- channel

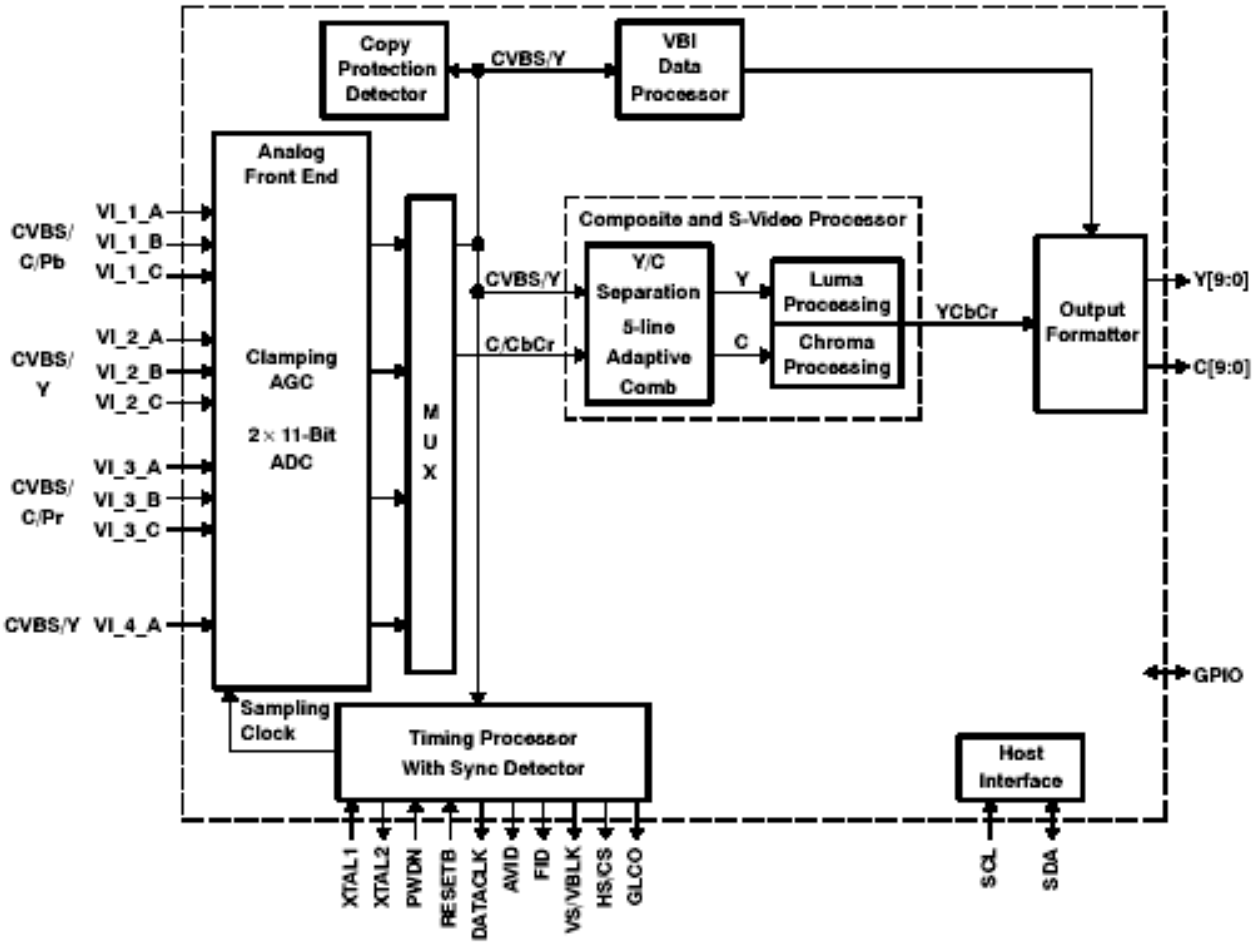
The MP7720 is a sound high effect of the D class amplifier, it output 10W in the without cooling fin.

3 picture parts:

AV/SV and SCART AV/YC via switch change N708 after, them sent to SVP-EX62 decode, then two way AV/SV and PIP TV to TVP5147 decode, but this unit only PIP TV decode.

TVP5147 chip is single chip video decoder, it include internal Y/C separate, 2D five line filter, MICROVISION IIC communicate and HS and VS output, the supply power supply +1.8V and +3.3V voltage to it.

3.1 The diagram of TVP5147 shown as follows:



Thereinto:

Pin16 is the PIP TV signal input

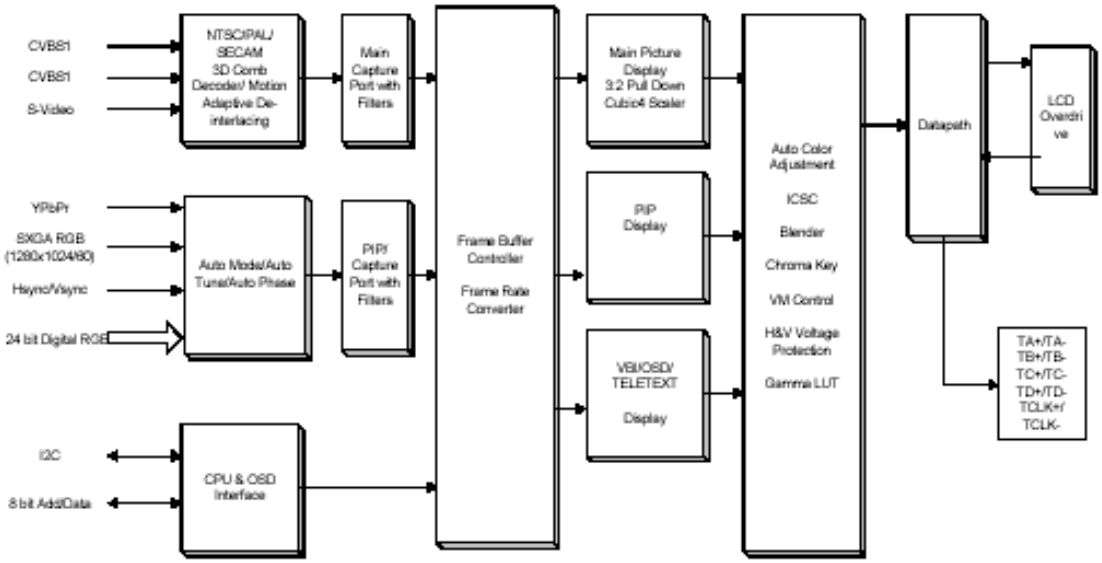
Pin8 foot is AV or Y (SV) input

Pin1 is C (SV) signal input

Pin7 is SCART CVBS or Y signal input

Pin80 is SCART C signal input

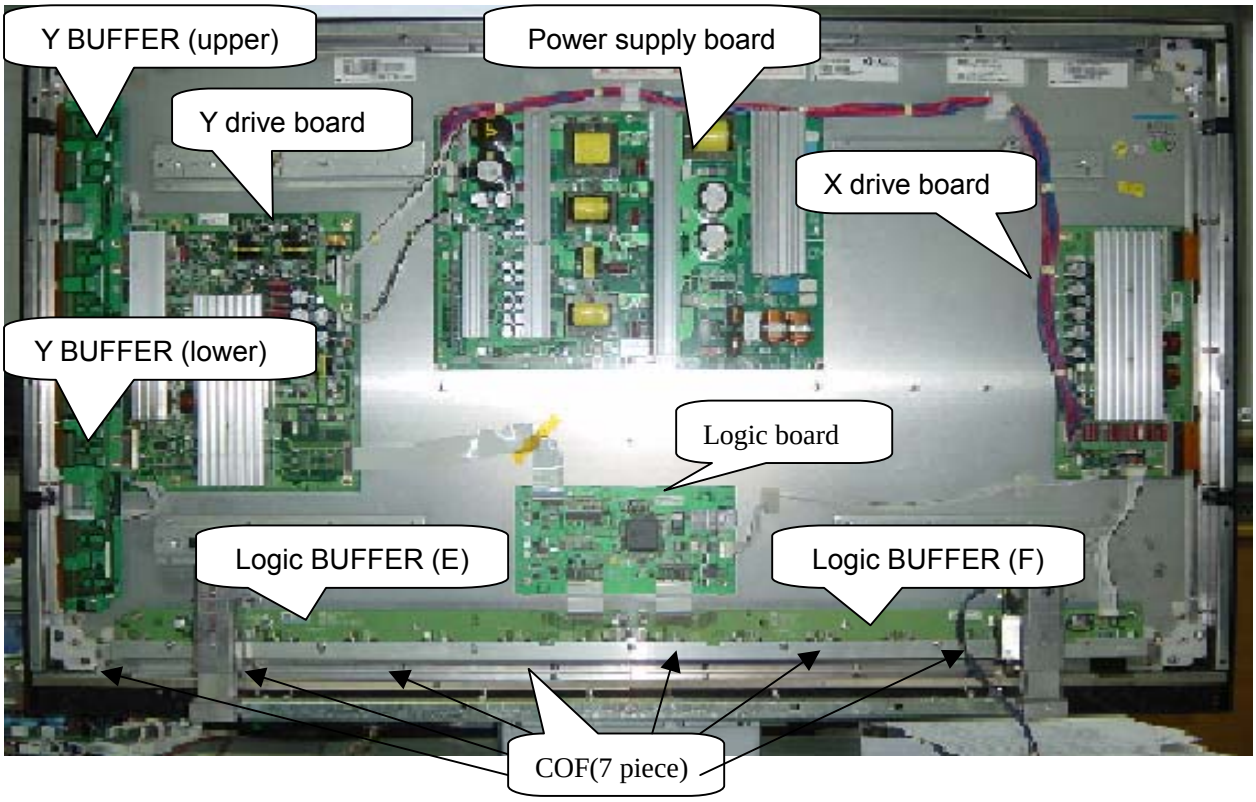
3.2 SVP-EX62 diagram shown as follows:



Diagnose and service of panel

1. Block function of panel

The power supply board, Logic board, X drive board, Y drive board, Logic BUFFER (E and F) and Y BUFFER (upper and lower) of the PDP panel.



*** Power supply board**: to supply power for the screen, other functional modules on the screen, our own main board, and video frequency processing board.

*** X driving board**: to produce and provide driving signal for X electrode according to the time sequence signal sent from logic board.

*** Y driving board**: to produce and provide driving signal for Y electrode according to the time sequence signal sent from logic board.

***Logic board:** to process the image signal sent from the main board, to produce addressing signal and to provide driving signal for X and Y driving boards.

***Logic BUFFER board:** To convert the data signal and control signal sent from the logic board into the signals required by COF.

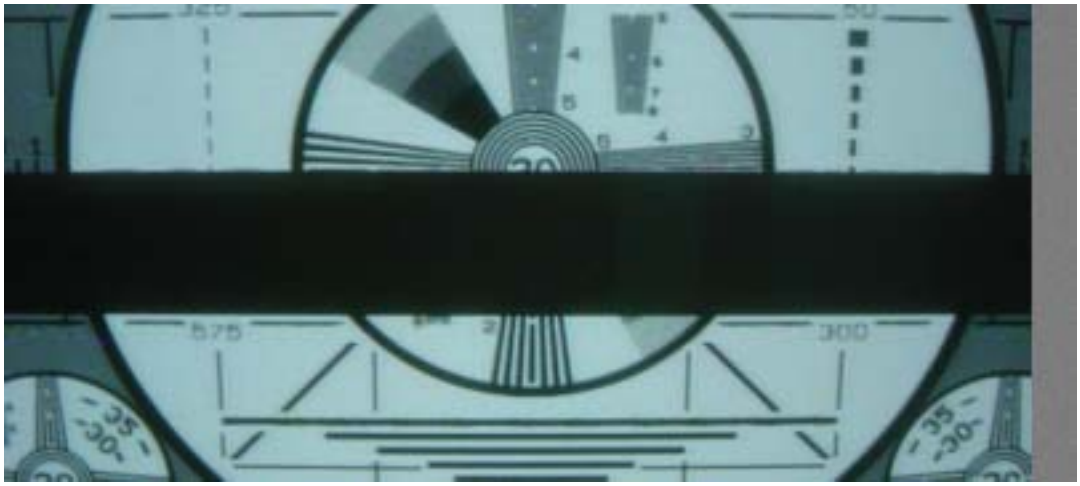
***Y BUFFER board:** to transmit the scanning signal from the Y driving board to the screen, which is divided into upper and lower parts.

***COF:** to convert the signal sent from the logic BUFFER board into the address signal used by the screen.

2.Trouble diagnosis:

2.1 The screen is not bright:

2.2 There appears on the screen a line or several unlit lines.

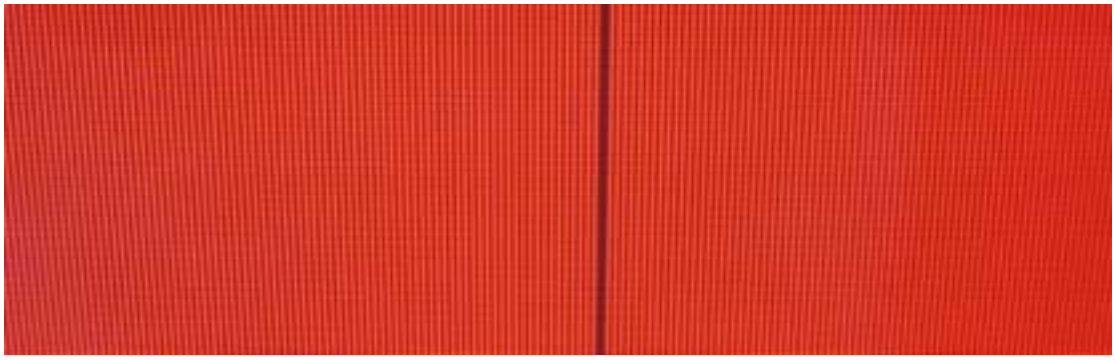


Check if the socket between Y driving board and Y BUFFER is plugged well. If not, plug it well. If yes then replace Y BUFFER (upper, lower) in respect to the upper, lower part of the dark line on the screen.

2.3 There appear on the screen one or several horizontal lines that are much brighter than the remaining horizontal lines at the edge:

Check if the socket between Y driving board and Y BUFFER is plugged well. If not, plug it well. If yes then replace Y BUFFER (upper, lower) in respect to the upper, lower part of the dark line on the screen.

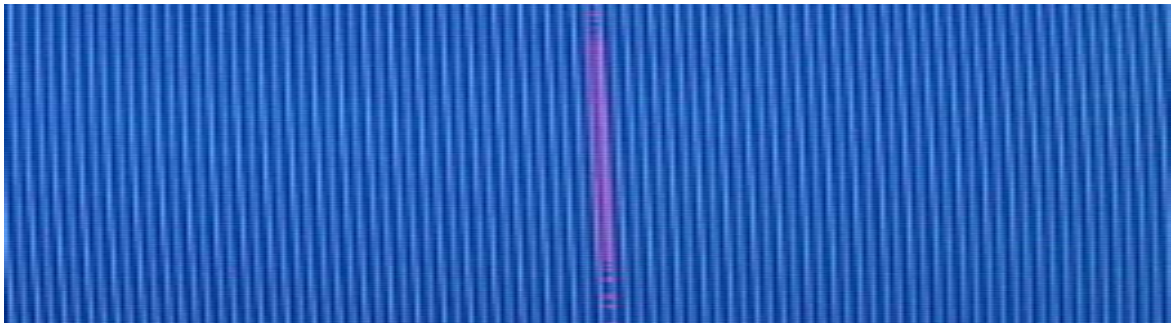
4.There appear on the screen one vertical unlit line or a vertical entirely unlit block



a. If it's one vertical unlit line, then COF has problem.

b. If it's a vertical entirely unlit block, then first check if the connection socket between COF and logic BUFFER has problem. If not, check if the connection sockets between the logic BUFFER and the logic board is normal. If yes, replace the logic BUFFER. Finally, if the problem still remains when the replacement is over, then replace the logic board.

5.There appears on the screen a mono color signal and one or several vertical bright lines of other colors:



a. If it's a vertical bright line of other colors, then the problem lies with COF or the screen.

b. If it's an entire vertical block of other colors, then first check to see if the connection socket between

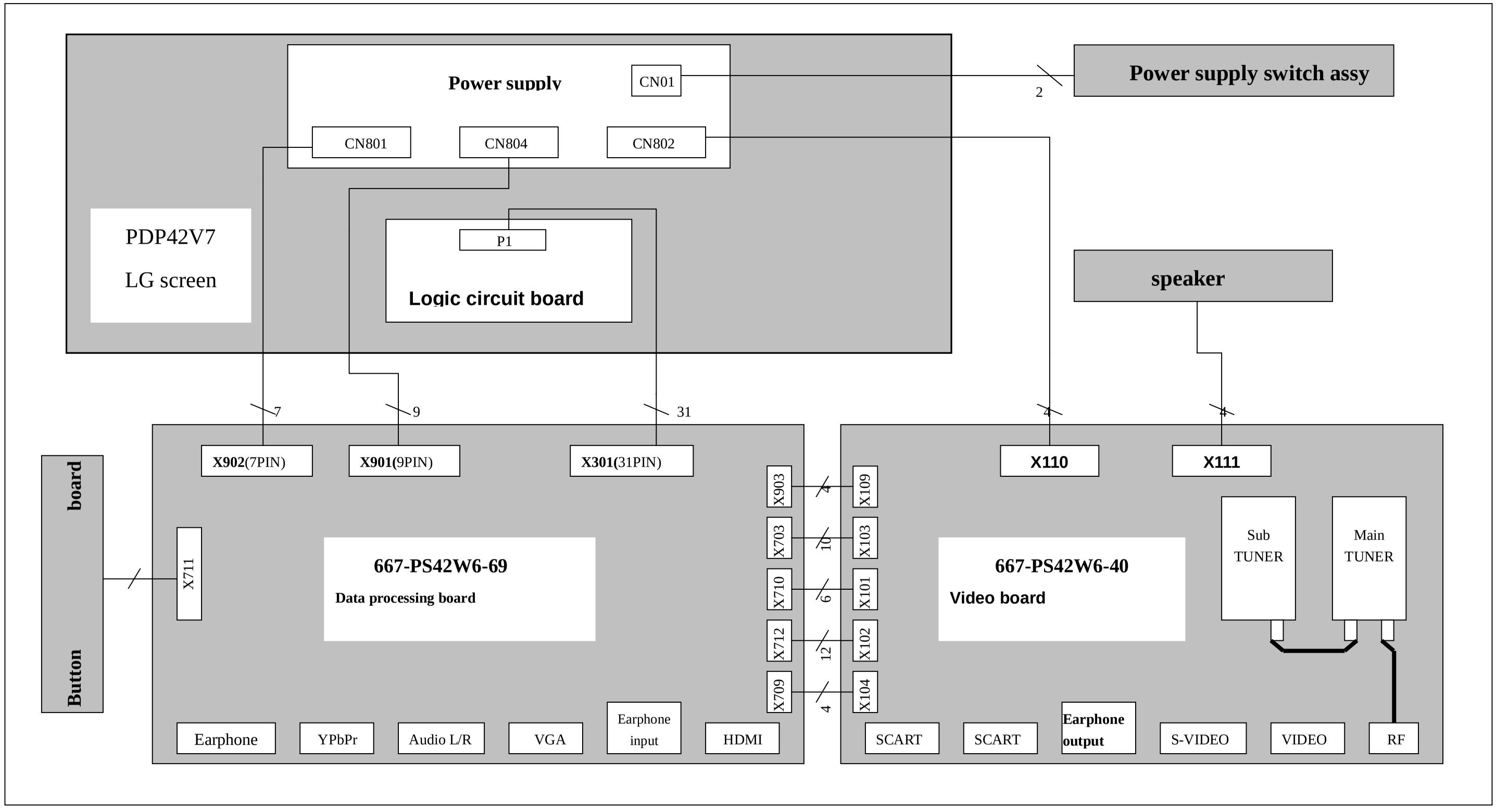
COF and logic BUFFER has problem. If no problem, check if the connection sockets between the logic BUFFER and the logic board is normal. If it's normal, then replace the logic BUFFER. If the problem still remains after the replacement, then replace the logic board. Finally if the problem is still there, then the problem lies with COF.

6.There appear on the screen abnormal bright spots or blocks that are different from what's described above:

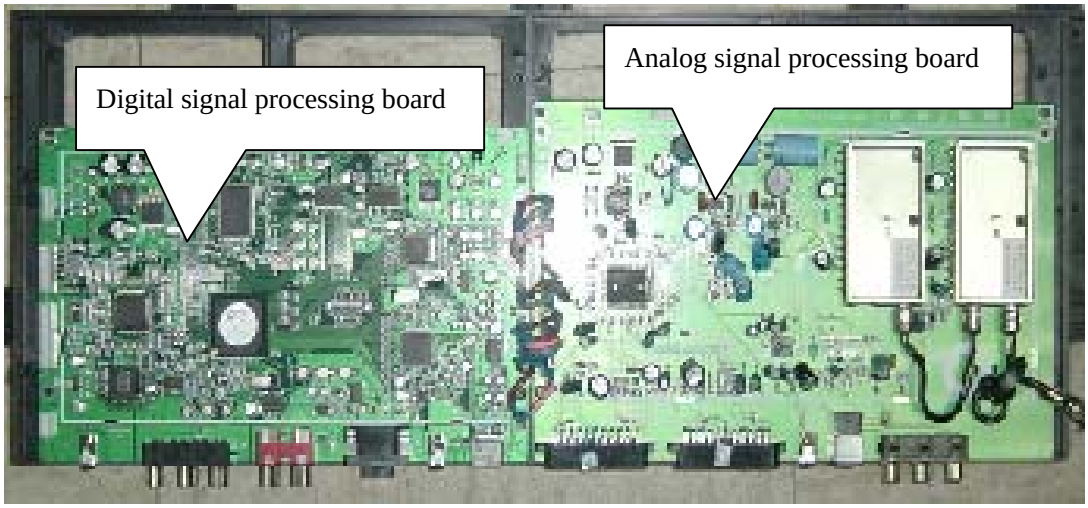
a. Check if the connection socket between COF and logic BUFFER board has been well plugged.

b. Replace the logic BUFFER board. If it's not solved then replace logic board. If the problem still remains, then it's the problem with COF.

Wiring Diagram



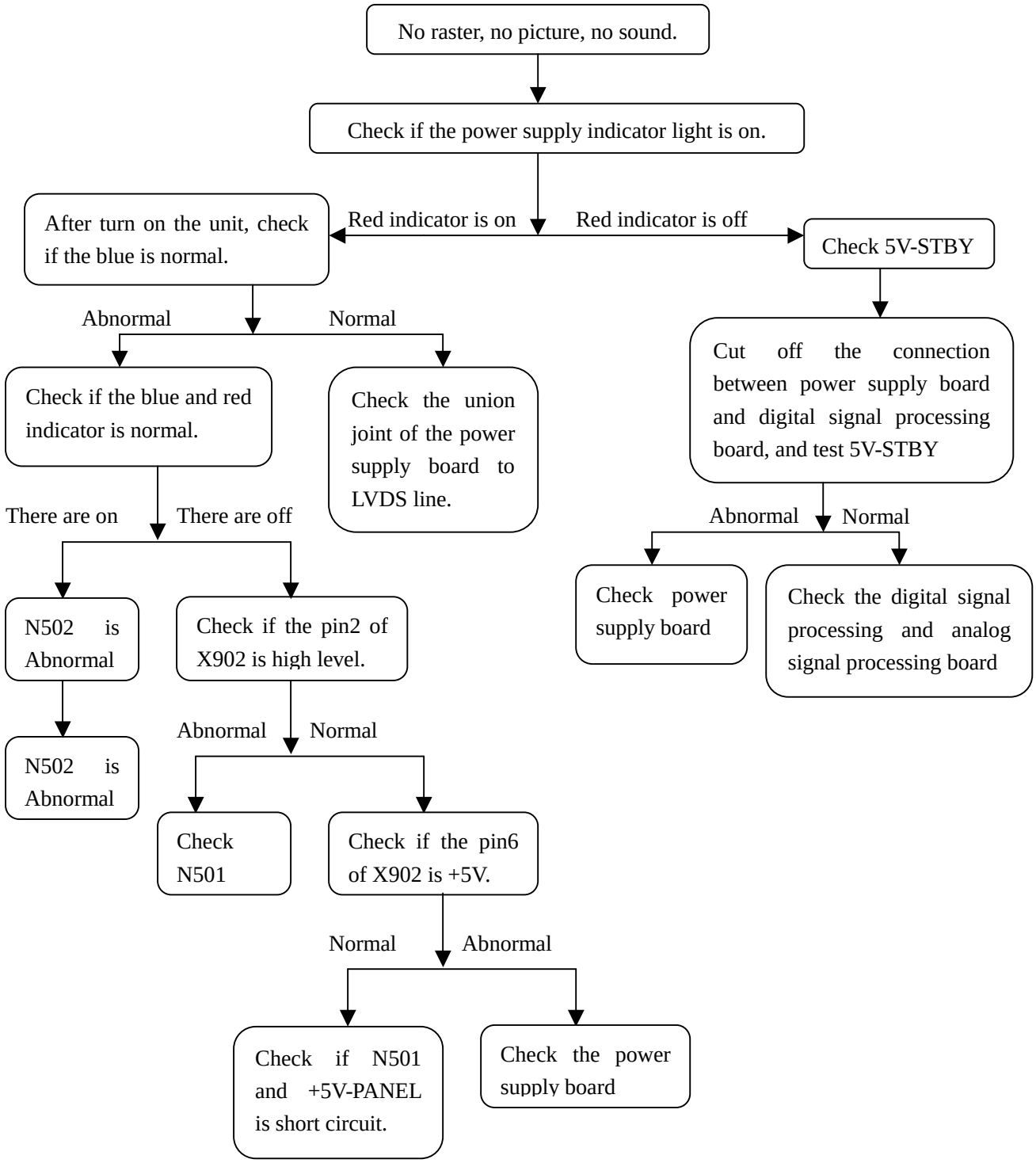
Assembly list



Name	NO.	Main IC and NO.
Main board	667-PS42W6-69	N201 SVP-EX62 (353-DPTV0-60) N302/N302 DS90C385MTD (353-03850-20) N401 K4D2632838F (353-26323-10) N501 M30620SPGP (353-30620-20) N502 W29C040P (353-29040-30) N607 SII9011CLU (353-90110-10) N801 TVP5147PFP (353-51470-10)
Video processing board	667-PS42W6-40	N102/103 MPS7720DS (353-77200-10)) N101 MSP3410G (353-34100-80) N104 NJW1109M (353-11090-20)
Remote control	301-IL27W18-02(X)	
Button board	667-PS42W6-05	

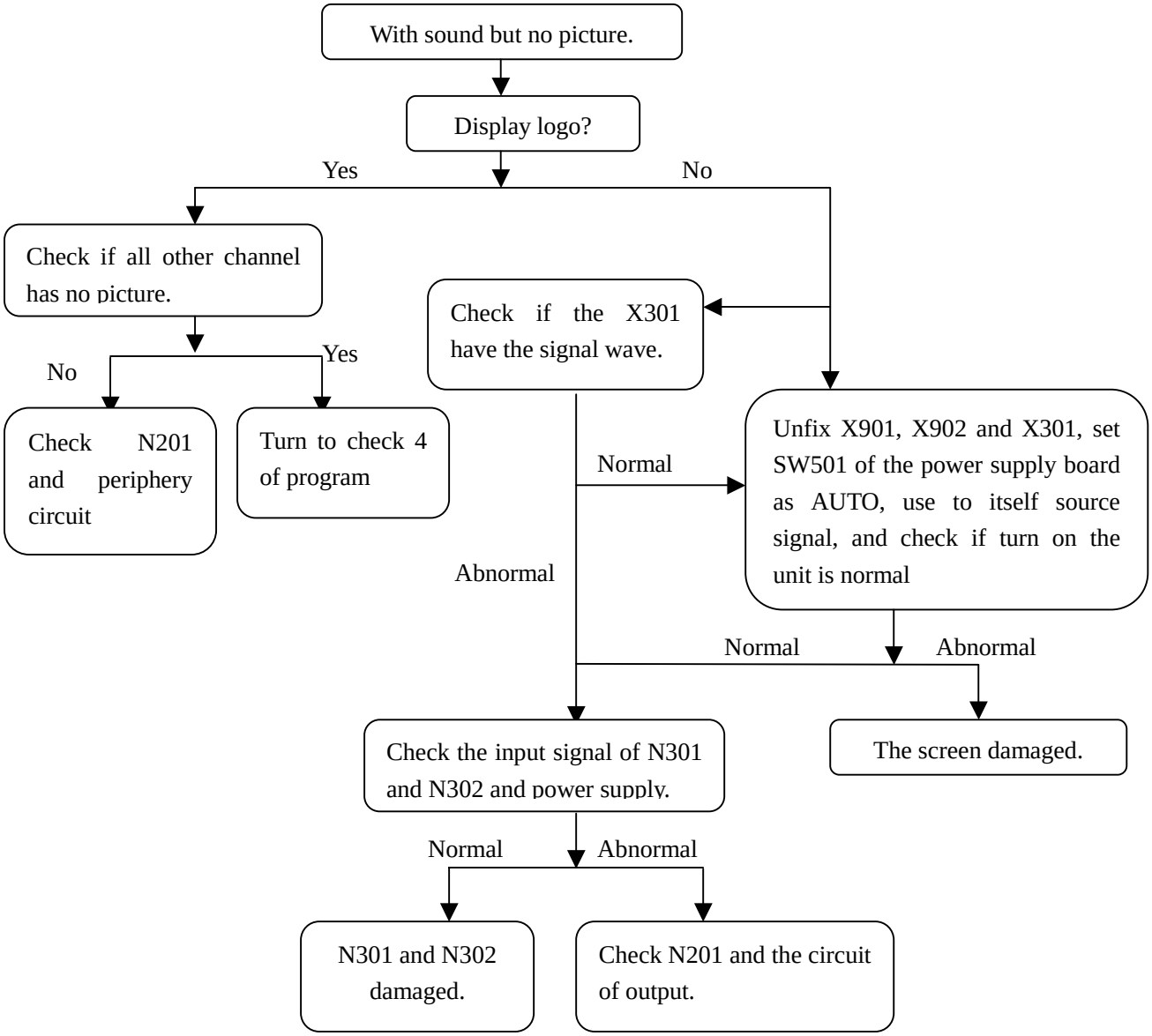
Trouble shooting guide

1.No raster, no picture, no sound

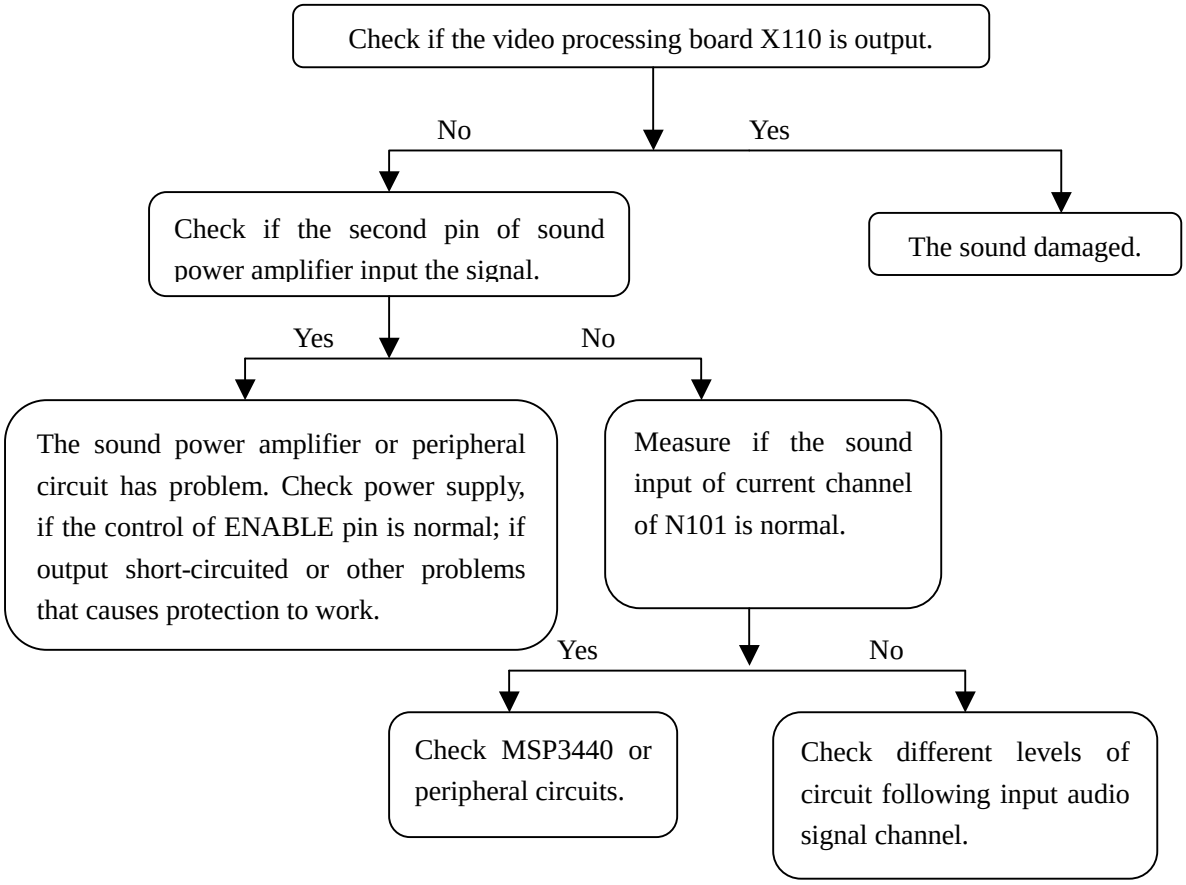

No raster, no picture, no sound.
Check if the power supply indicator light is on.
After turn on the unit, check if the blue is normal.
Red indicator is on
Red indicator is off
Check 5V-STBY
Abnormal
Normal
Check if the blue and red indicator is normal.
Check the union joint of the power supply board to LVDS line.
Cut off the connection between power supply board and digital signal processing board, and test 5V-STBY
There are on
There are off
Abnormal
Normal
N502 is Abnormal
Check if the pin2 of X902 is high level.
Check power supply board
Check the digital signal processing and analog signal processing board
N502 is Abnormal
Abnormal
Normal
Check N501
Check if the pin6 of X902 is +5V.
Normal
Abnormal
Check if N501 and +5V-PANEL is short circuit.
Check the power supply board

NOTICE: The PDP power supply have the protection function of overcurrent, overvoltage and so on, if certain route power supply appear overcurrent and overvoltage, the power supply should appear the protection to arise no-output.

2.With sound but no picture:

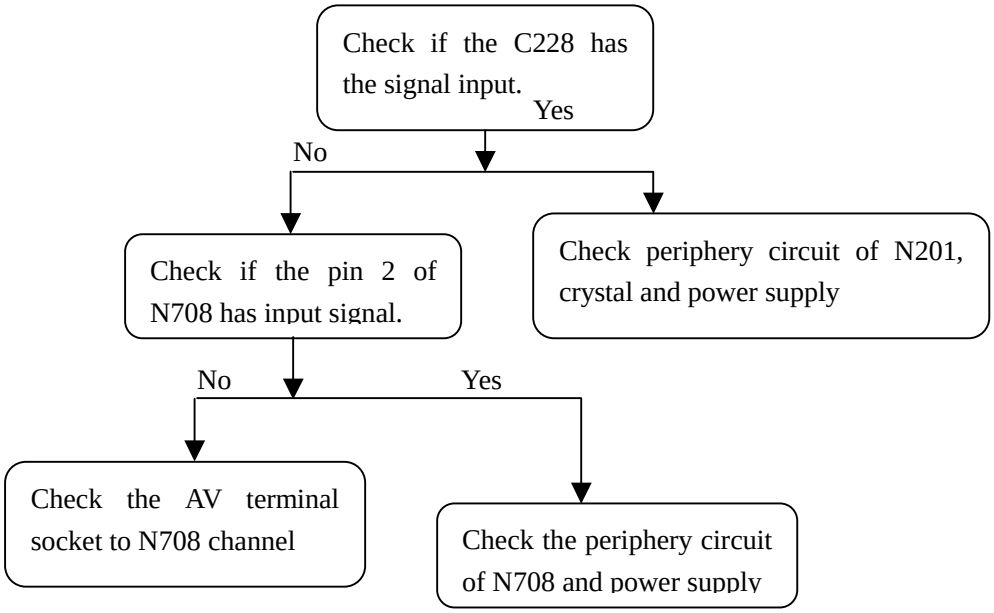

With sound but no picture.
Display logo?
Yes
No
Check if all other channel has no picture.
No
Yes
Check N201 and periphery circuit
Turn to check 4 of program
Check if the X301 have the signal wave.
Normal
Abnormal
Unfix X901, X902 and X301, set SW501 of the power supply board as AUTO, use to itself source signal, and check if turn on the unit is normal
Normal
Abnormal
The screen damaged.
Check the input signal of N301 and N302 and power supply.
Normal
Abnormal
N301 and N302 damaged.
Check N201 and the circuit of output.

3.With picture but no sound:

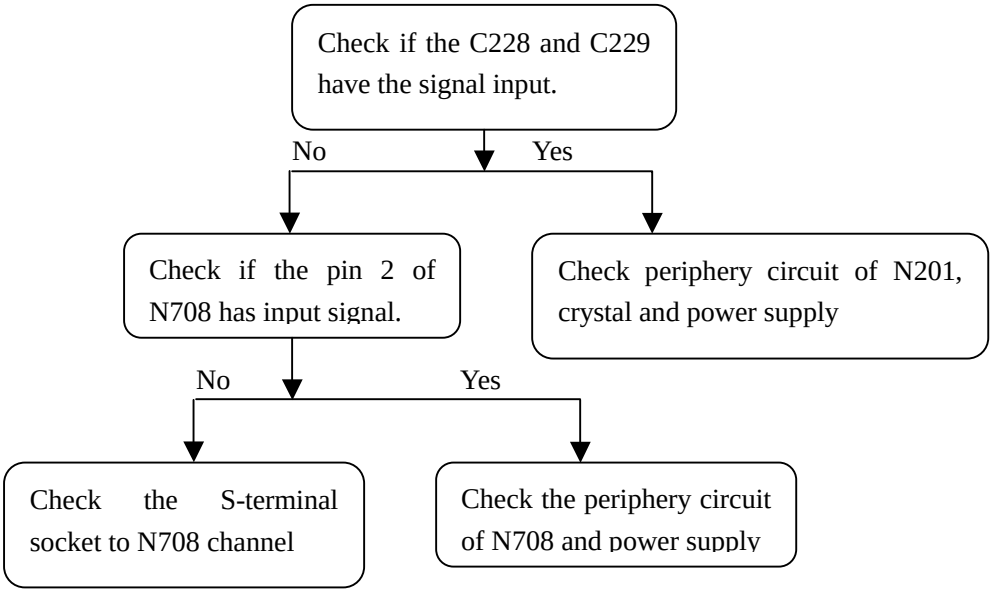

Check if the video processing board X110 is output.
No
Yes
Check if the second pin of sound power amplifier input the signal.
The sound damaged.
Yes
No
The sound power amplifier or peripheral circuit has problem. Check power supply, if the control of ENABLE pin is normal; if output short-circuited or other problems that causes protection to work.
Measure if the sound input of current channel of N101 is normal.
Yes
No
Check MSP3440 or peripheral circuits.
Check different levels of circuit following input audio signal channel.

4. A certain channel is abnormal

4.1 No picture on AV

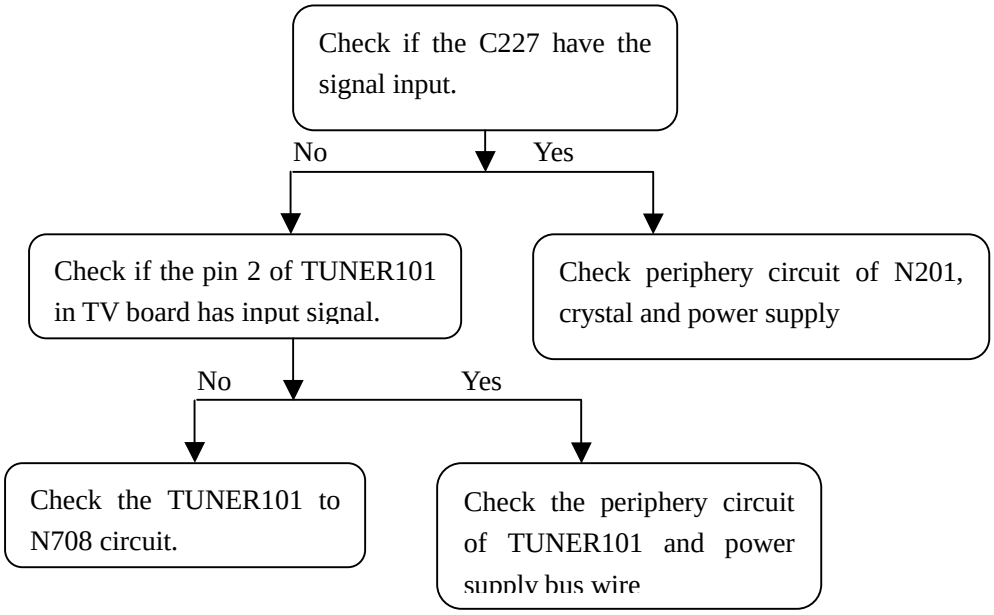

Check if the C228 has the signal input.
Yes
No
Check if the pin 2 of N708 has input signal.
Check periphery circuit of N201, crystal and power supply
No
Yes
Check the AV terminal socket to N708 channel
Check the periphery circuit of N708 and power supply

4.2 no picture on S-terminal

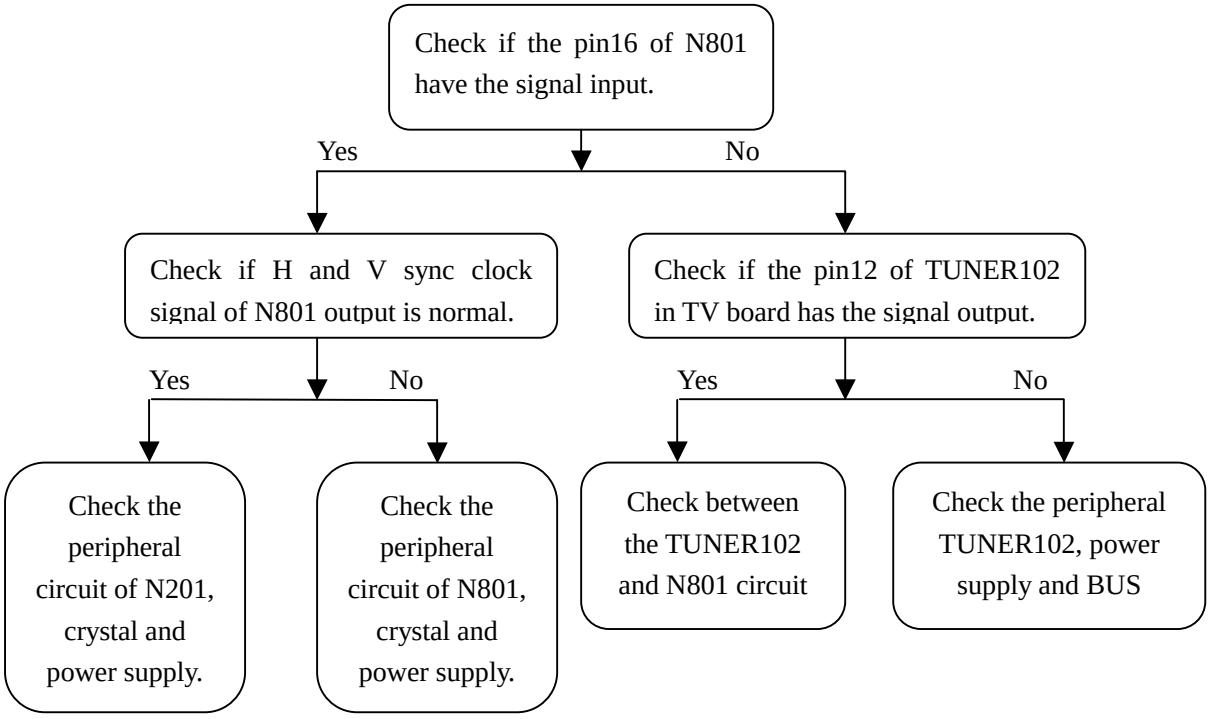

Check if the C228 and C229 have the signal input.
No
Yes
Check if the pin 2 of N708 has input signal.
Check periphery circuit of N201, crystal and power supply
No
Yes
Check the S-terminal socket to N708 channel
Check the periphery circuit of N708 and power supply

4.3 NO picture of TV channel

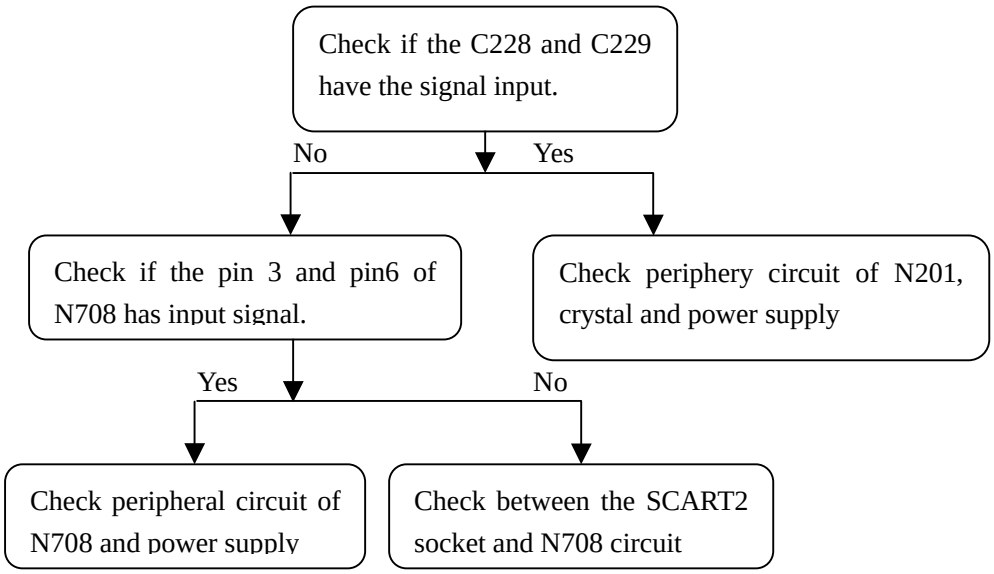
4.3.1 mainframe


Check if the C227 have the signal input.
No
Yes
Check if the pin 2 of TUNER101 in TV board has input signal.
Check periphery circuit of N201, crystal and power supply
No
Yes
Check the TUNER101 to N708 circuit.
Check the periphery circuit of TUNER101 and power supply bus wire

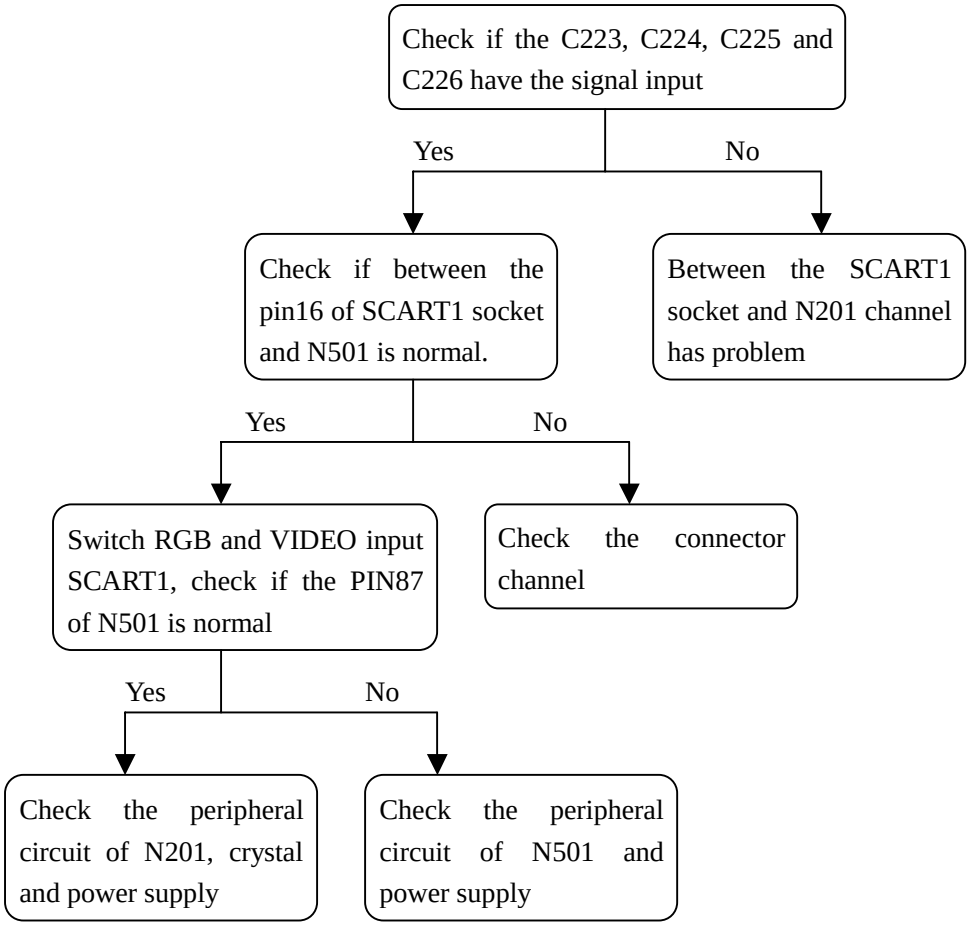
4.3.2 sub frame


Check if the pin16 of N801 have the signal input.
Yes
No
Check if H and V sync clock signal of N801 output is normal.
Check if the pin12 of TUNER102 in TV board has the signal output.
Yes
No
Yes
No
Check the peripheral circuit of N201, crystal and power supply.
Check the peripheral circuit of N801, crystal and power supply.
Check between the TUNER102 and N801 circuit
Check the peripheral TUNER102, power supply and BUS

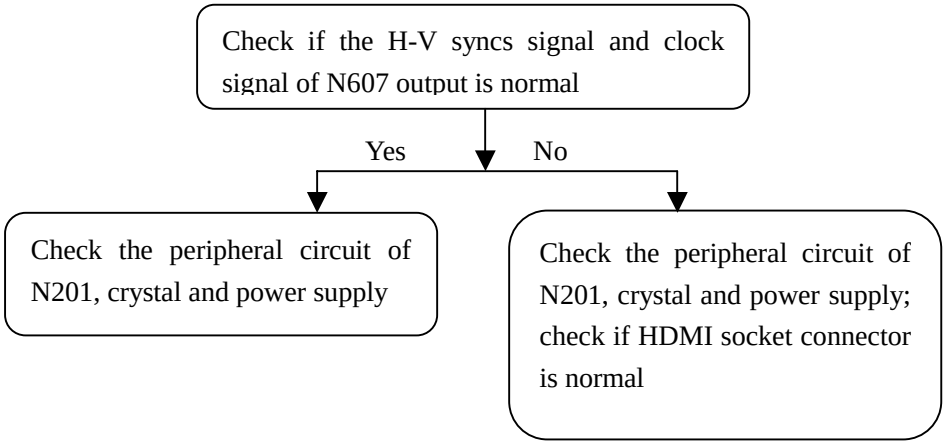
4.4 No picture of SCART2


Check if the C228 and C229 have the signal input.
No
Yes
Check if the pin 3 and pin6 of N708 has input signal.
Check periphery circuit of N201, crystal and power supply
Yes
No
Check peripheral circuit of N708 and power supply
Check between the SCART2 socket and N708 circuit

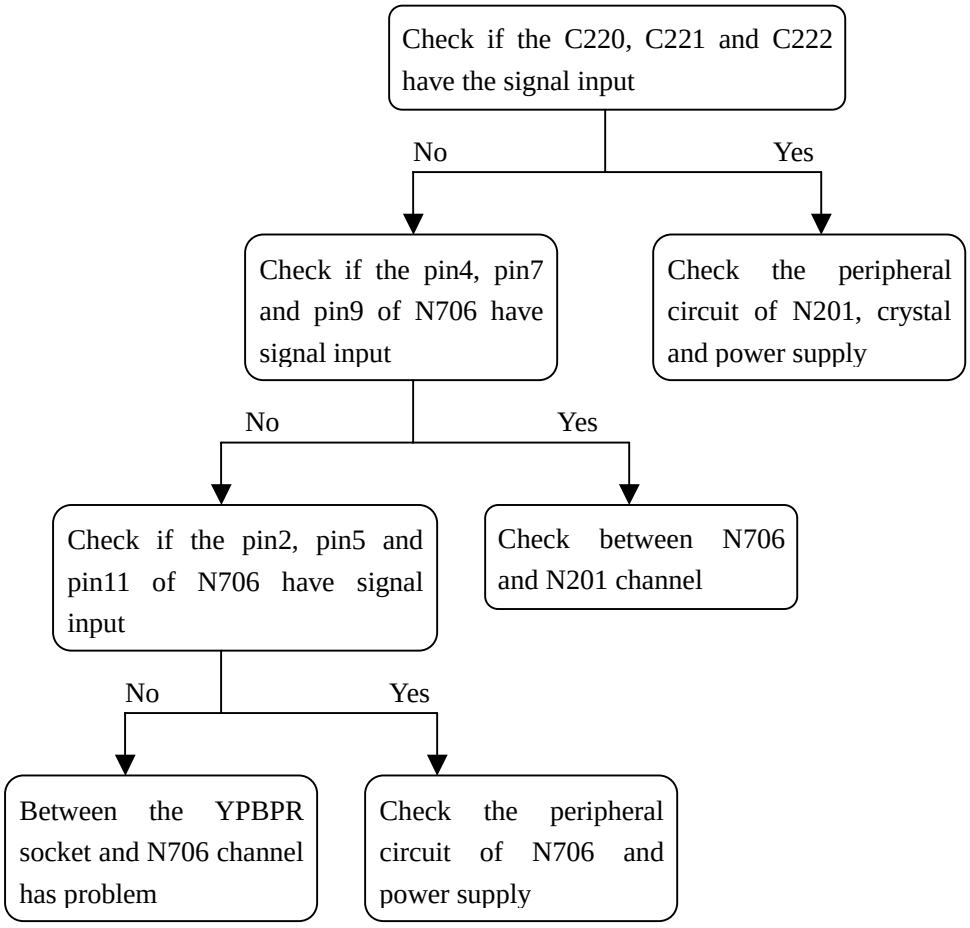
4.5 No picture of SCART1


Check if the C223, C224, C225 and C226 have the signal input
Yes
No
Check if between the pin16 of SCART1 socket and N501 is normal.
Between the SCART1 socket and N201 channel has problem
Yes
No
Switch RGB and VIDEO input SCART1, check if the PIN87 of N501 is normal
Check the connector channel
Yes
No
Check the peripheral circuit of N201, crystal and power supply
Check the peripheral circuit of N501 and power supply

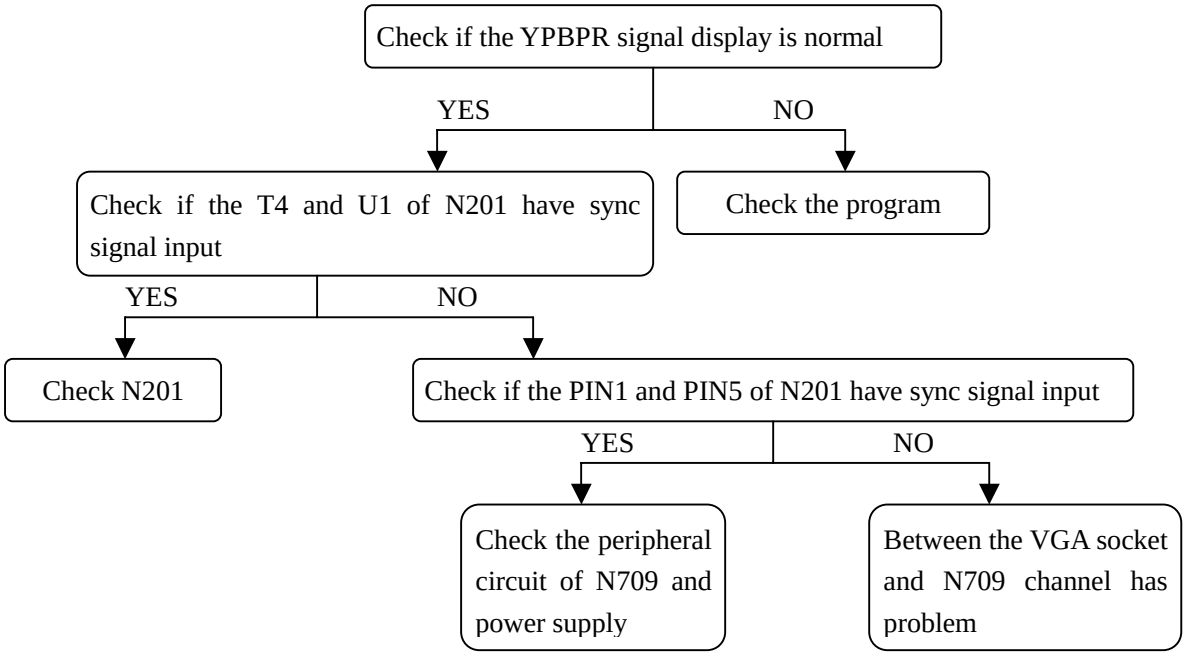
4.6 no picture of HDMI


Check if the H-V syncs signal and clock signal of N607 output is normal
Yes
No
Check the peripheral circuit of N201, crystal and power supply
Check the peripheral circuit of N201, crystal and power supply; check if HDMI socket connector is normal

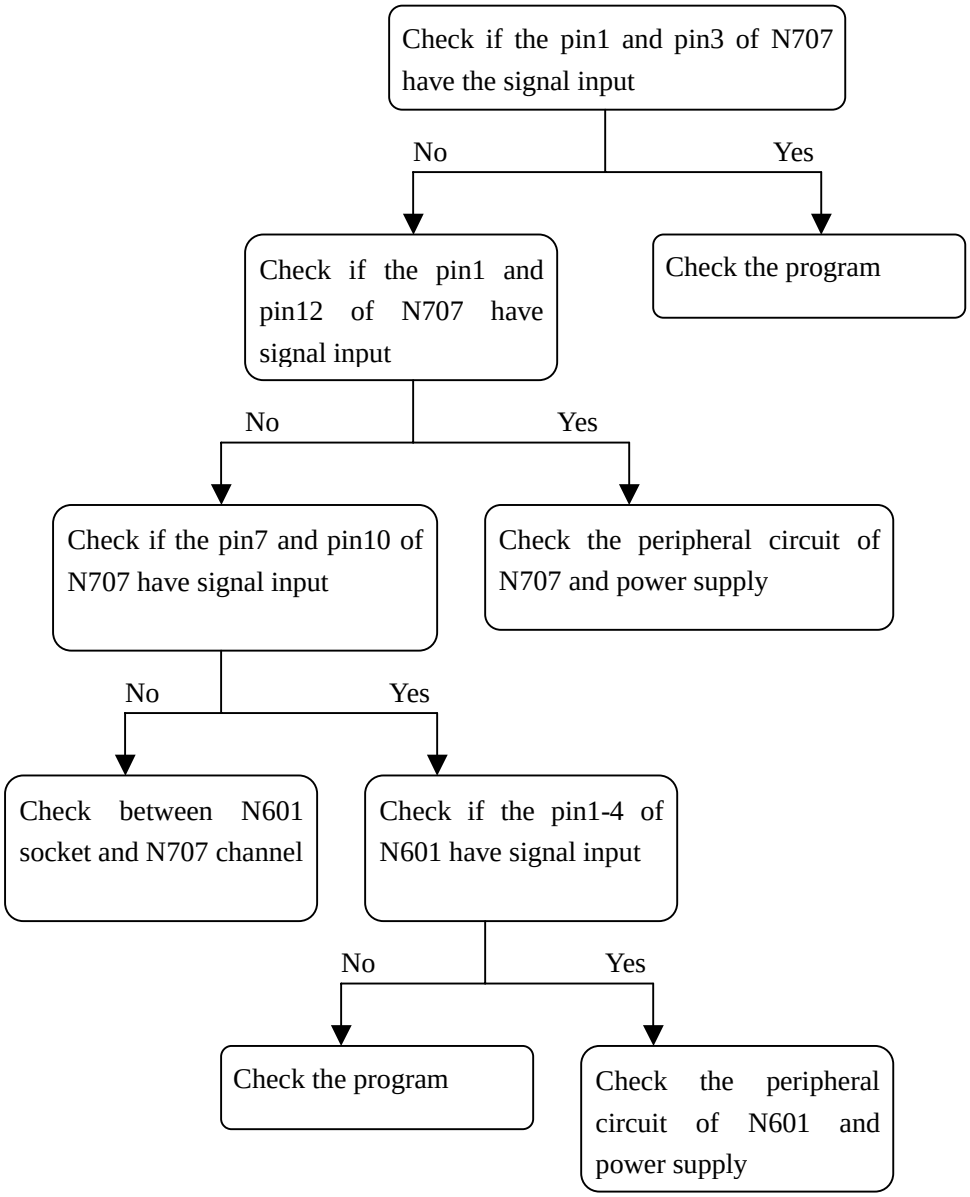
4.7 No picture of YPBPR or YCBCR


Check if the C220, C221 and C222 have the signal input
No
Yes
Check if the pin4, pin7 and pin9 of N706 have signal input
Check the peripheral circuit of N201, crystal and power supply
No
Yes
Check if the pin2, pin5 and pin11 of N706 have signal input
Check between N706 and N201 channel
No
Yes
Between the YPBPR socket and N706 channel has problem
Check the peripheral circuit of N706 and power supply

4.8 No of picture of D-SUB channel


Check if the YPBPR signal display is normal
YES
NO
Check if the T4 and U1 of N201 have sync signal input
Check the program
YES
NO
Check N201
Check if the PIN1 and PIN5 of N201 have sync signal input
YES
NO
Check the peripheral circuit of N709 and power supply
Between the VGA socket and N709 channel has problem

4.9 NO SOUND of HDMI channel


Check if the pin1 and pin3 of N707 have the signal input
No
Yes
Check if the pin1 and pin12 of N707 have signal input
Check the program
No
Yes
Check if the pin7 and pin10 of N707 have signal input
Check the peripheral circuit of N707 and power supply
No
Yes
Check between N601 socket and N707 channel
Check if the pin1-4 of N601 have signal input
No
Yes
Check the program
Check the peripheral circuit of N601 and power supply

4.10 Abnormal of the picture:

4.10.1 color abnormal

a. A certain differential wire pair of LVDS (RX0+/-, RX1+/-, RX2+/-, RX3+/-) of X301 is abnormal, which may lead to lack of color (it's not a complete loss of color).

b. Failure with resistor rows R225~R2300, which may lead to loss of corresponding color from the gray degree corresponding to the picture of all channels.

c. Failure with resistor rows R819~R822, which may lead to loss of corresponding color from the gray degree corresponding to the picture of VGA/YPRPB/AV/TV channels.

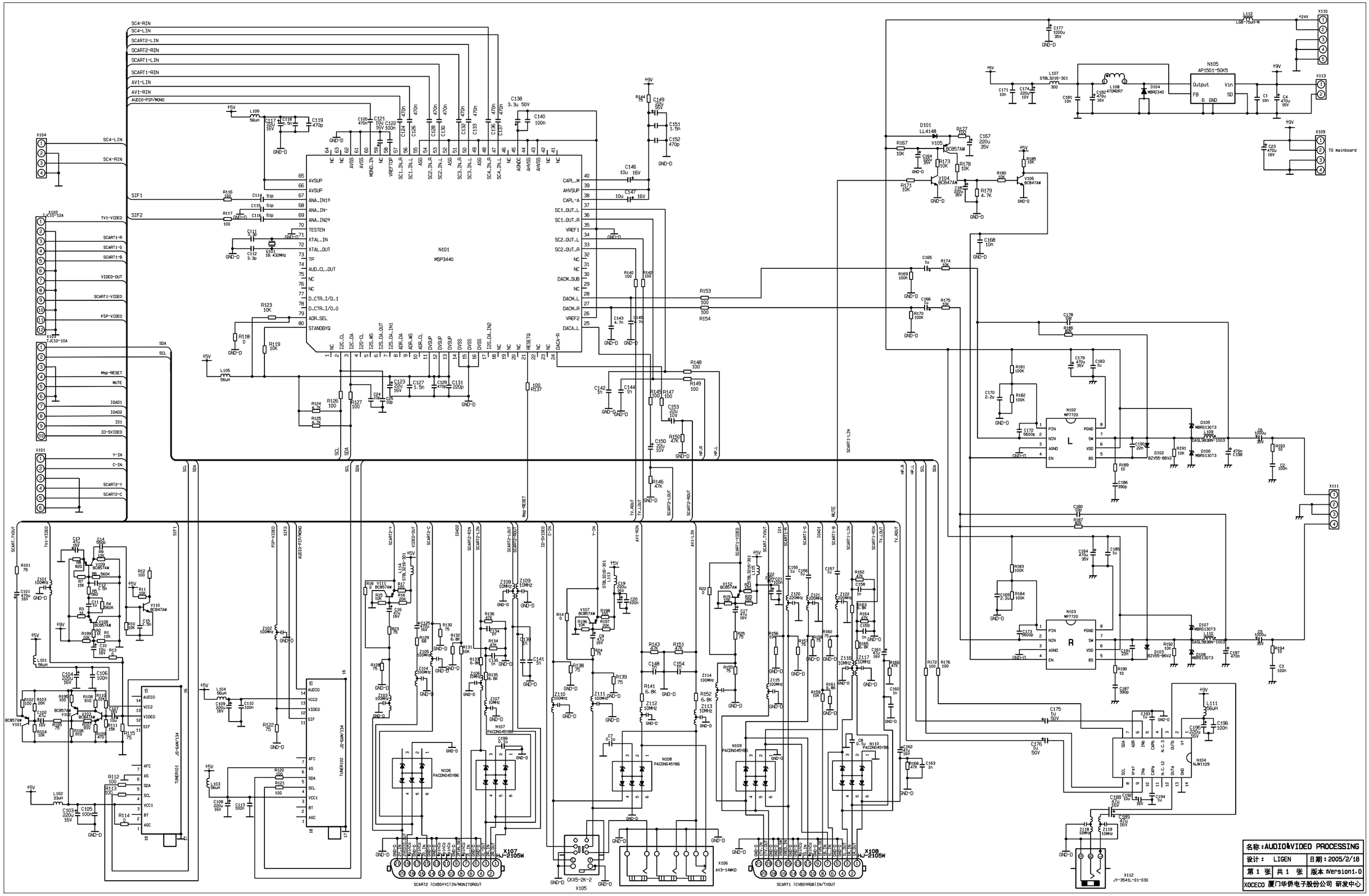
d. Failure with resistor rows R653~R659, which may lead to loss of corresponding color from the gray degree corresponding to the picture of HDMI channel.

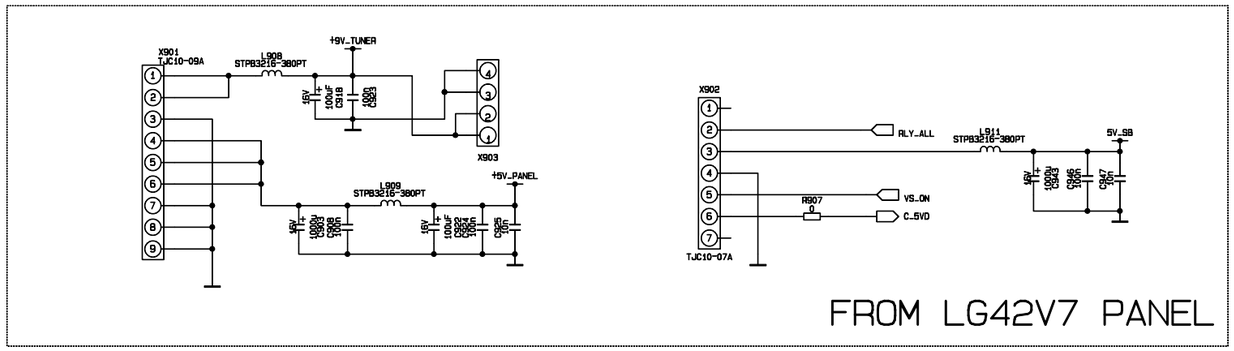
4.10.2 Abnormal picture vertically or horizontally (bar like): Abnormal in complete line extending all the way from up downward on the screen of stand definition TV set; abnormal vertically on half screen of high definition TV set. They may be caused by the damage of the address BUFFER module that directly corresponds to its position, or may be caused by the damage of the connection wire that directly corresponds to the position of the screen. The horizontal bar like abnormality is also related to the Y driving circuit that corresponds directly to its position. To judge these phenomena, It's possible to check it by setting the screen to the status of self check as explained above

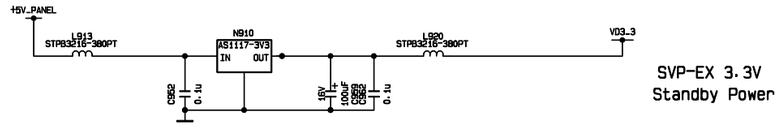
4.10.3 No brightness in the square block area: Normally it's caused by the damage of the address BUFFER module that directly corresponds to its position, or may be caused by the damage of the connection wire that directly corresponds to the position of the screen. To judge these phenomena, It's possible to check it by setting the screen to the state of self check as explained above.

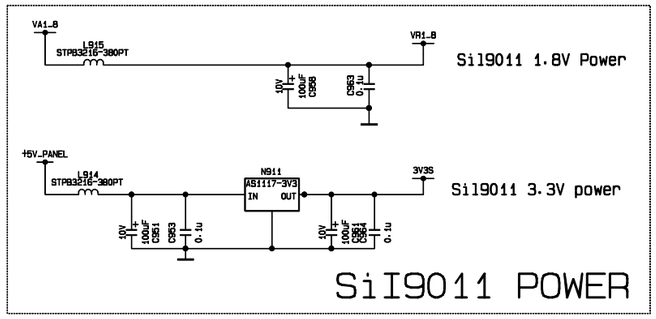
	Model NO.
	PDP-42XS1
	203-PS42W60-13
RC	XIIL27W1802F
DIGITAL PROCESSING ASS'Y	
SOUND PROCESSING ASS'Y	XI667PS42W669
POWER ASS'Y	
TV BOARD ASS'Y	XI667PS42W640
FRONT CABINET	XI780I06R07A0
BACK CABINET	XI611I08RQAF3A
USER MANUAL	XIPS42W6S300

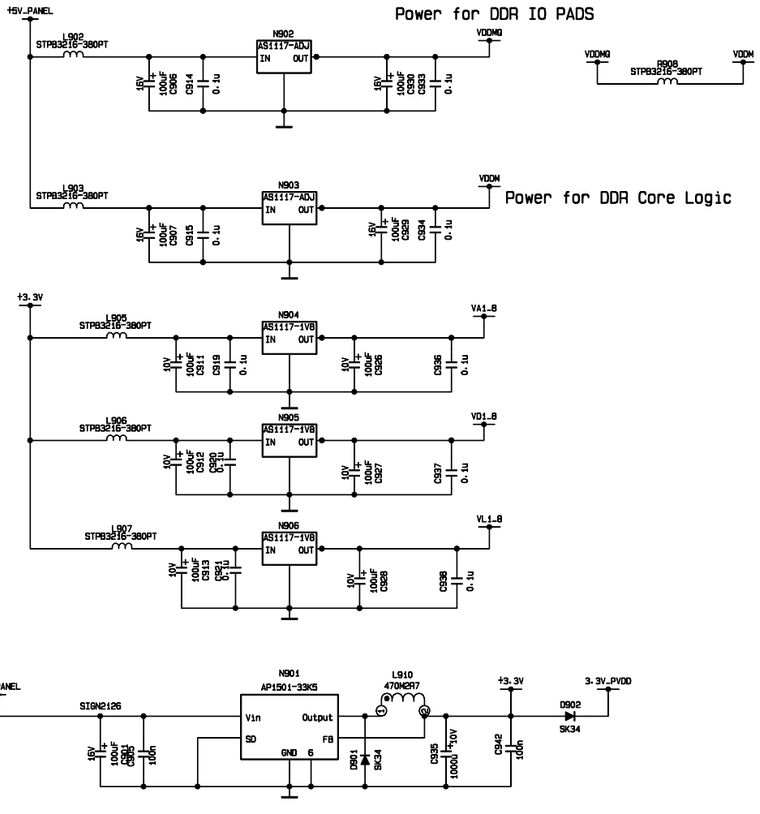
603-PS42W6S-00
Ver.1.0

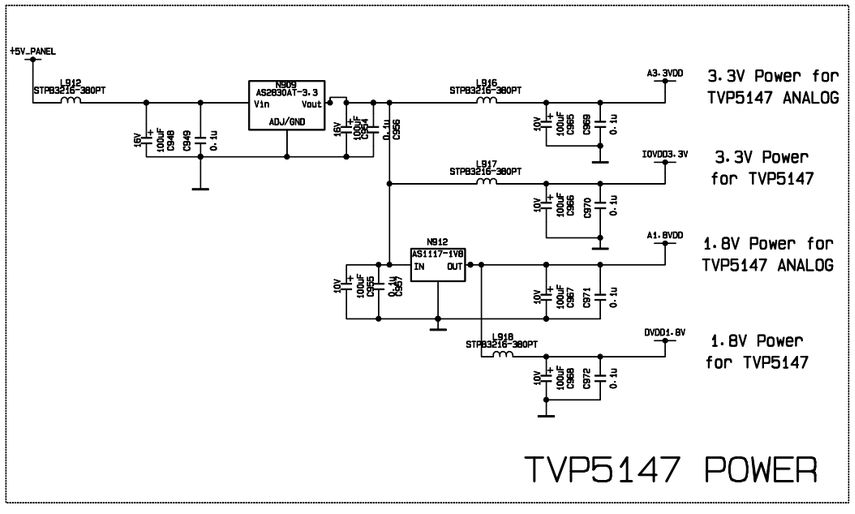

N101
MSP3440
SCART2 (CVBS+YC)IN/MONITOROUT
SCART1 (CVBS+RGB)IN/TVOUT
名称:AUDIO&VIDEO PROCESSING
设计: LIGEN
日期:2005/2/18
第 1 张 共 1 张
版本 Version1.0
XOCECO 厦门华侨电子股份公司 研发中心



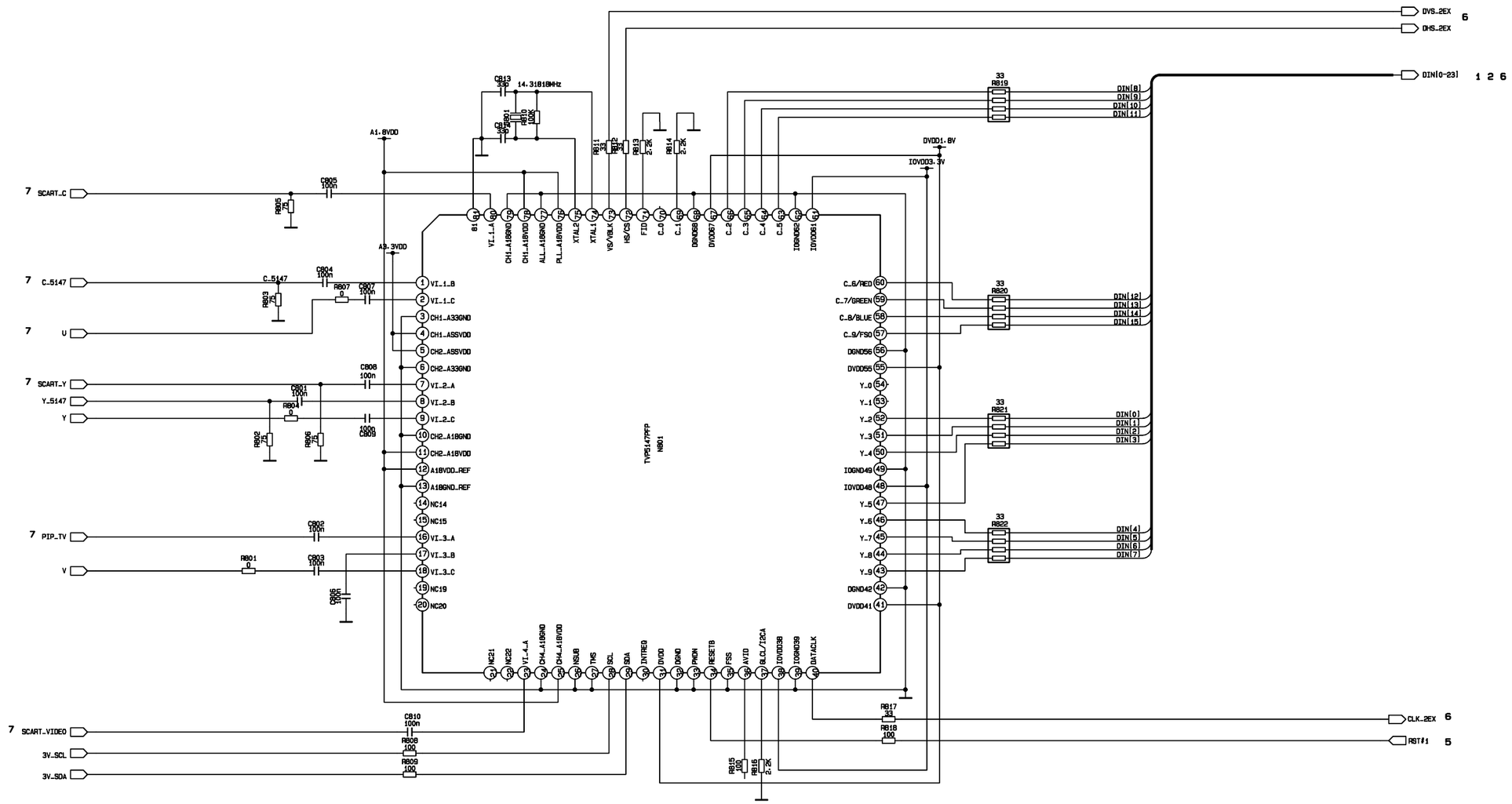


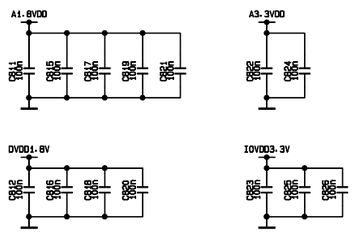




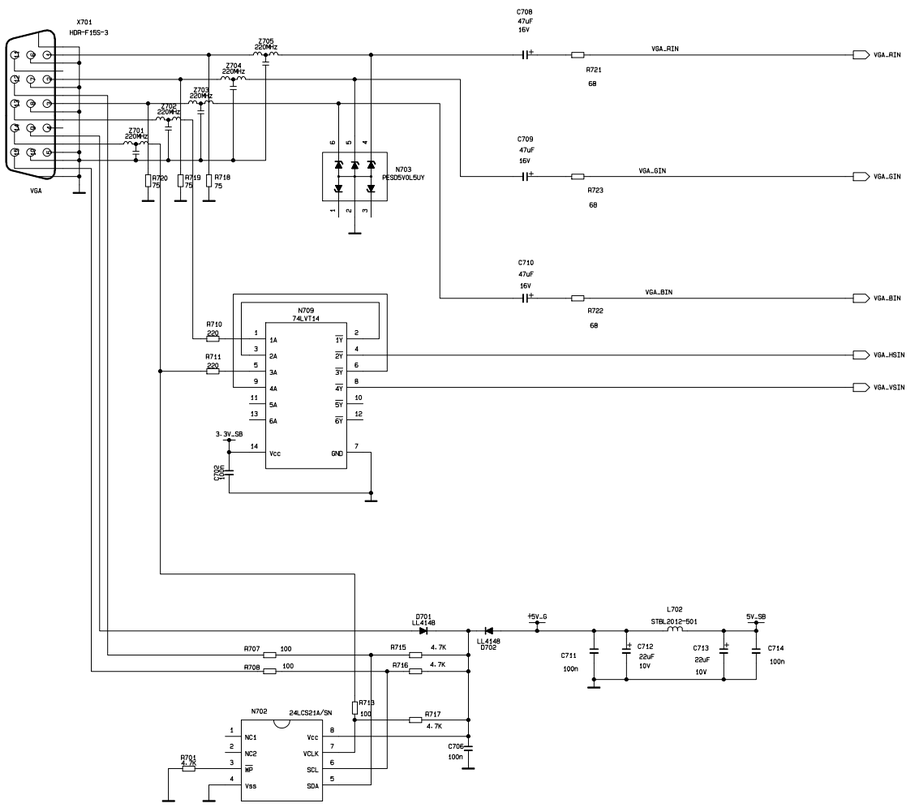


		名称	编号
		POWER 电路图	203-PS42W60-01DL
版 次	更改单号		版次 X1.0
更改记录			第 9 页 共 9 页
拟 制			
审 核			
标准化			厦门华侨电子股份有限公司
工 艺			
批 准			





		名称	编号
		TVP5147 电路图	203-PS42W60-01DL
版 次	更改单号		版次 X1.0
更改记录			第 8 页 共 9 页
拟 制			
审 核			
标准化			厦门华侨电子股份有限公司
工 艺			
批 准			



		名称	编号
		INTERFACE 电路图	203-PS42W60-01DL
版 次	更改单号		版次 X1.0
更改记录			第 7 页 共 9 页
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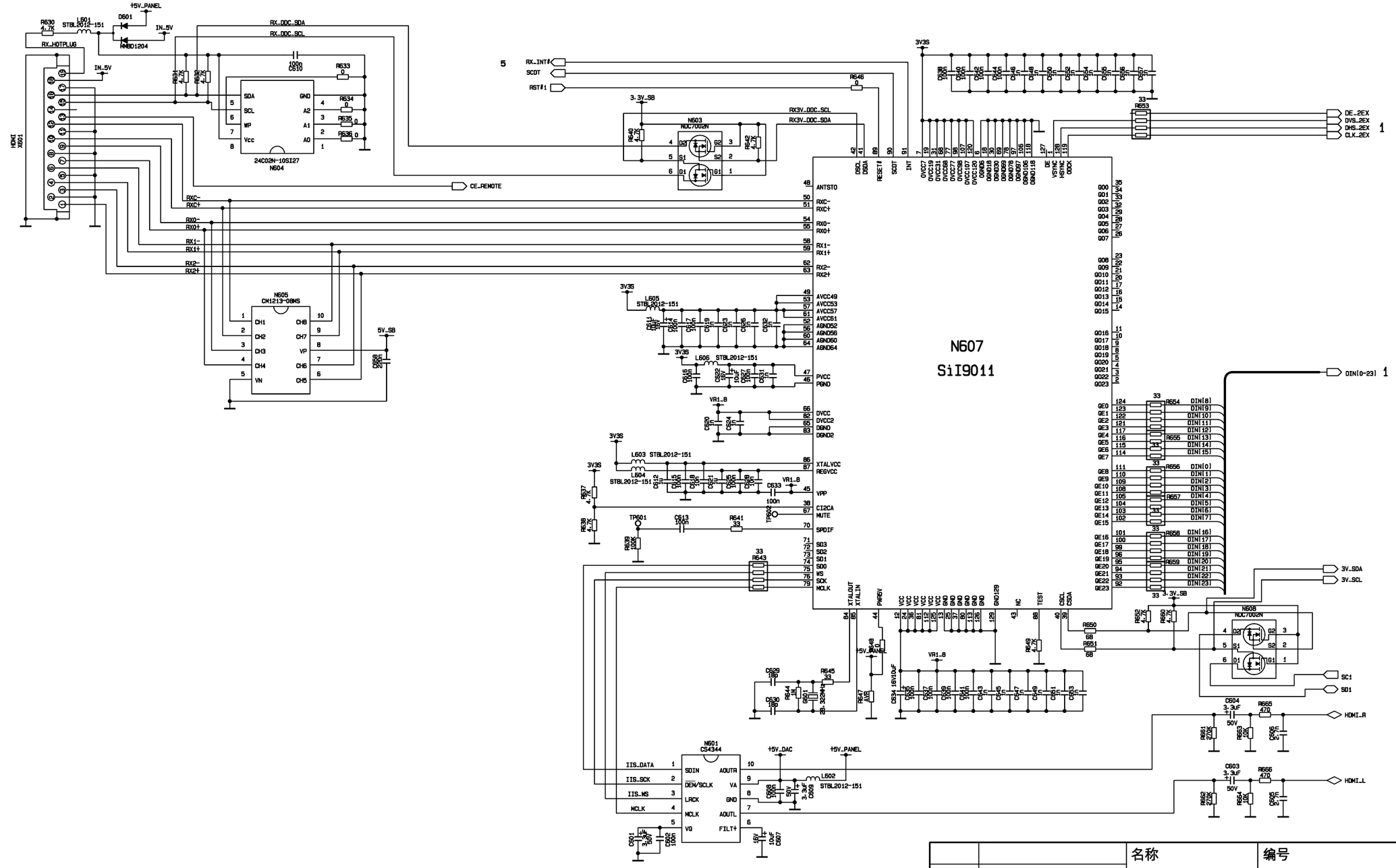
审 核			
标准化			厦门华侨电子股份有限公司
工 艺			
批 准			



		名称	编号
		HDMI 电路图	203-PS42W60-01DL
版 次	更改单号		版次 X1.0
更改记录			第 6 页 共 9 页
拟 制			
审 核			厦门华侨电子股份有限公司
标准化			
工 艺			
批 准			

N501
M16C

N502
W29C040P

N504
SN74HC02D

N505
NDC7002N

N503
AT24LC32A/SN

X501
TJC3-10A

S501
S502

V501
BC847AM

V502
BC857AM

V503
BC847AM

V504
BC847AM

D501
HZ4A2

D502
HZ5C1

G501
10MHZ

L501
STBL2012-151

FOR EX62 RESET

FOR SII9011/TVP5147/MSP3440 RESET

		名称	编号
		CPU 电路图	203-PS42W60-01DL
版 次	更改单号		版次 X1.0
更改记录			第 5 页 共 9 页
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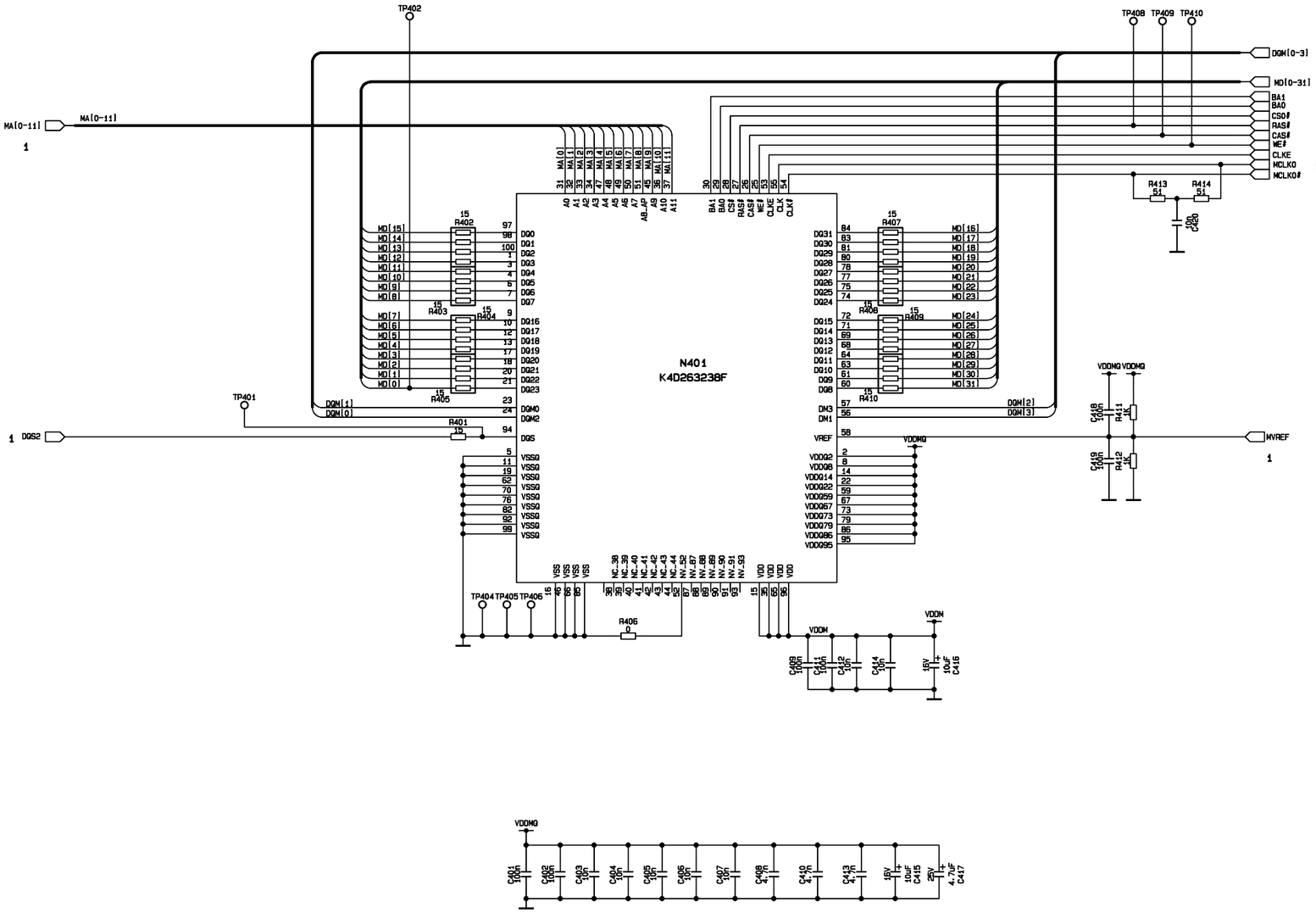
审 核			
标准化			
工 艺			厦门华侨电子股份有限公司
批 准			



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		DDRAM 电路图	203-PS42W60-01DL
版 次	更改单号		版次 X1.0
更改记录			第 4 页 共 9 页
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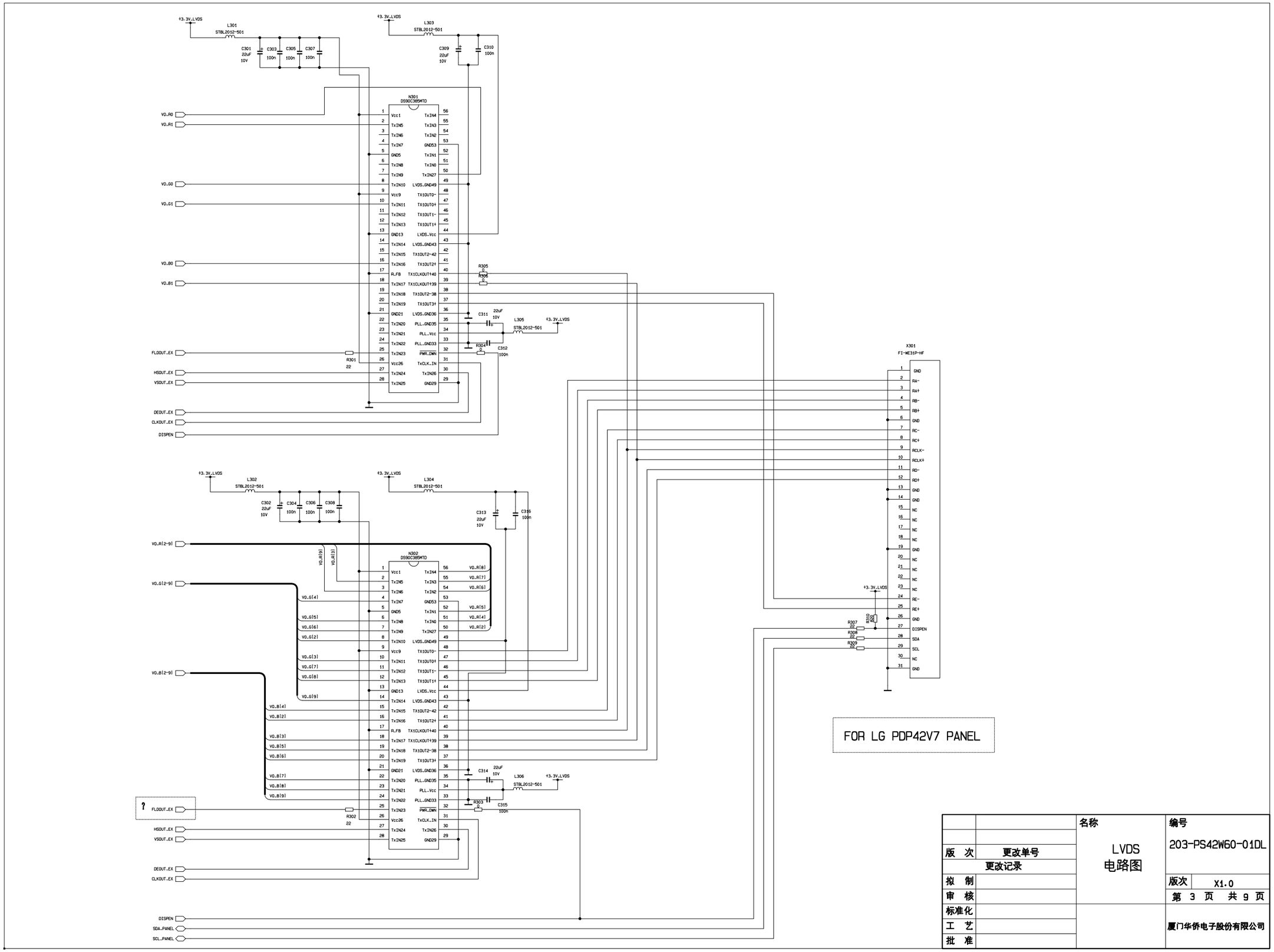
标准化			厦门华侨电子股份有限公司
工 艺			
批 准			



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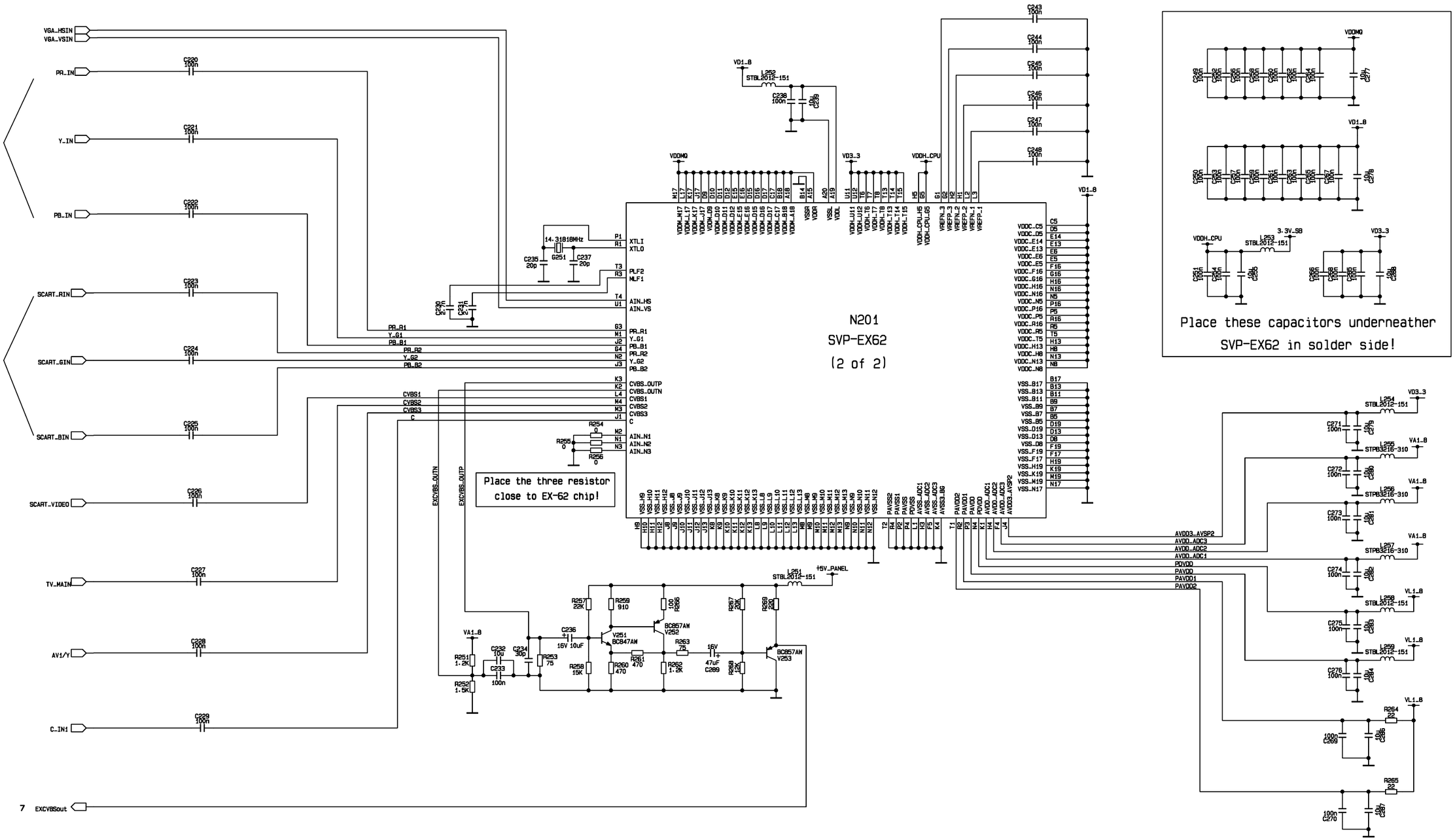
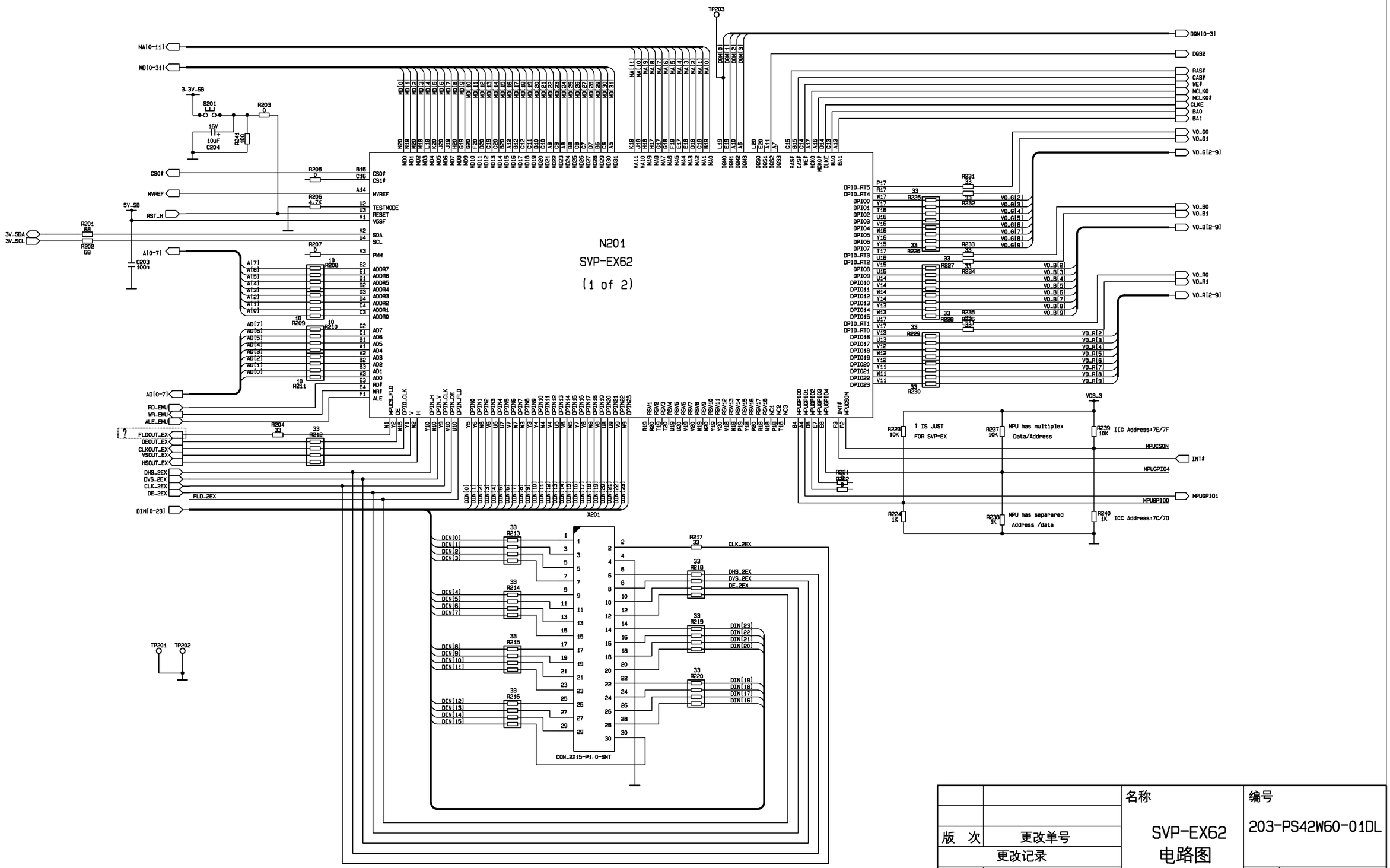
标准化			厦门华侨电子股份有限公司
工 艺			
批 准			



		名称	编号
		SVP-EX62 电路图	203-PS42W60-01DL
版 次	更改单号		版次 X1.0
更改记录			第 2 页 共 9 页
拟 制			
审 核			
标准化			厦门华侨电子股份有限公司
工 艺			
批 准			



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		SVP-EX62 电路图	203-PS42W60-01DL
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更改记录			第 1 页 共 9 页
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